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ABSTRACT

Since July 1971, the Educational Testing Service has planned and conducted a study of compensatory reading programs in United States public schools. This volume reports the results of the 1972-1973 school-year study (phase two), which involved pre- and posttesting of all students in the second, fourth, and sixth grades of a subsample of the original 731 schools and an additional 30 schools with noteworthy reading programs. Contents consist of an overview of phase one, a description of the instrumentation and data-collection procedures for the phase one study, and the results of the phase two study. Forty-two tables of findings are included. Three appendixes contain study-related material: samples of tests and questionnaires, graphs plotting various test results, and supplementary analyses. (JSE)

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FINAL REPORT
VOLUME I

Contract No. OEC-0-71-3715

A DESCRIPTIVE AND ANALYTIC STUDY
OF COMPENSATORY READING PROGRAMS

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U.S. DEPARTMENT OF
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December 1975

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Chapter I. GENERAL BACKGROUND OF THE STUDY

Introduction

This volume is one in a series of reports of the activities conducted by Educational Testing Service for the U.S. Office of Education during the period July 1971 through December 1975. In July 1971, ETS was requested by the USOE to develop design and analysis plans for a study of compensatory reading programs in U.S. public schools. The planning activity took place during the period July-December 1971 and is described in the ETS Final Report for Contract No. OEC-O-71-3715 (A Descriptive and Analytic Study of Compensatory Reading Programs, January 1972). The study was designed to be carried out in phases. Phase I involved a questionnaire survey in Spring 1972 of a national sample of 731 schools. The results of the survey are described in detail in the Phase I Report for Contract No. OEC-O-71-3715 (A Descriptive and Analytic Study of Compensatory Reading Programs, August 1973). Phase II, conducted during the 1972-73 school year, involved pre- and posttesting of all students in grades 2, 4, and 6 of a subsample of the original 731 schools and an additional 30 schools with noteworthy reading programs. The results of the 1972-73 school year study, referred to as Phase II, are reported in the present volume, Final Report Volume I. Volume II will cover subsequent phases of the work: a study of summer programs conducted during Summer 1973, a series of site visits and classroom observations in a sample of 29 schools chosen because of their outlier status with respect to effectiveness, and a second series of site visits in a small group of schools chosen for their high level of effectiveness with respect to the criteria of this study. This report will appear in December 1975.

Phase I

Definition of compensatory reading. One of the first issues to be addressed in Phase I was that of delineating what was meant by "compensatory reading." It was decided, after much discussion, to adopt a very basic definition of compensatory reading; at the same

time, it was decided to obtain sufficient information in the questionnaires to allow the definition to be further narrowed in any number of alternative ways later on. For purposes of this study, then, the definition of compensatory reading instruction became "any reading instruction provided to students because they are reading below their grade level." The definition thus treated only the educational deprivation component of compensatory reading. Questionnaire items were developed to treat other components: economic and/or social deprivation and minority group membership, to name a few.

Sample selection. The primary purpose of the Spring 1972 survey was to obtain data descriptive of compensatory reading programs in grades 2, 4, and 6 of a representative national sample of U.S. public schools. A second purpose was to obtain a sample which could serve as a population list from which to draw a subsample of programs for Phase II.

Since there existed no population list of compensatory reading programs, the Phase I sample was selected using the 1970-1971 School Universe Tape as the basic list. The development of the sample design and the actual sample selection were performed by the Research Division of Westat, Inc. and are described in detail in Appendix A of the Phase I report.

The major stratifying variables used in selecting the Phase I sample were average income (as an indicator of socioeconomic status) and percent minority of the community. In addition, degree of urbanization, geographic region, and size of school were taken into account in the sample selection process even though they were not used as stratifying variables.

The end product of Westat's work was a list of schools which were contacted by ETS during the Spring of 1972. For each school listed there were also five back-up schools to be contacted in the case that the primary school refused. In all, 731 sample schools were contacted.

Questionnaire development. The main objective of data collection in Phase I was to describe compensatory and non-compensatory reading programs in as much detail as possible in the sample schools. Questionnaires were thought to be the most efficient technique for gathering the data considering the size of the sample. With the aid of a series of experts in the field of reading, a comprehensive list was developed of the variables in schools and reading programs that were felt to bear some relationship to reading achievement. The variables fell roughly into four general categories: institutional (or school) variables, instructional (or class) variables, teacher characteristics, and student characteristics. It was decided that questionnaires to students would be unmanageable and that the student variables could be tapped by means of group estimates made by principals and teachers. It was also decided that certain of the variables were most logically the province of school administrators and others most logically belonged to teachers. As a result, three sets of questionnaires were developed: a School Principal Questionnaire, two separate but parallel Class and Program Characteristics Questionnaires--one for compensatory reading classes and one for non-compensatory reading classes, and a Teacher Characteristics Questionnaire. The School Principal Questionnaire was designed to provide information about the school and school district and about administrative policies affecting reading programs. The Teacher Characteristics Questionnaire was intended to elicit information about those characteristics of individual teachers that might have some influence on their students. The Class and Program Characteristics Questionnaires, a blue one for compensatory reading classes and a yellow one for non-compensatory reading classes, were the most comprehensive of the instruments, collecting a wide variety of data about classroom instruction during the first phase of the study. The two questionnaires were identical with certain minor exceptions. Teachers of both compensatory and non-compensatory reading were asked to complete both types of questionnaires.

The questionnaires attained their final form through a series of clinical pretrials in schools near Princeton and in Trenton and Philadelphia. The schools were chosen to represent a variety of

reading programs and instructional models. Questionnaires were completed by principals and teachers in the schools, following which ETS personnel visited the schools to observe reading instruction and to discuss the questionnaires with the people who filled them out. The classroom visits served to validate the information in the questionnaires and the interviews helped to assess the format and the feasibility of data collection by this method. The questionnaires were revised a number of times in the course of the clinical pretrials. When a semi-final form was arrived at, a series of mail trials was conducted in order to test the mail-out-return-receipt procedure.

Data collection procedures. In order to ensure the highest possible response rate for the Spring 1972 questionnaire survey, a set of procedures was devised with the aid of the Advisory Board to the study. First, letters explaining the purpose of the project were sent to each chief state school officer in whose state a sample school appeared. Similar letters were sent to district superintendents and to the principals of sample schools. Teachers were paid an honorarium to complete and return questionnaires. In order to guarantee teachers that their questionnaire responses would remain anonymous, each teacher was provided with a postage paid envelope for direct return of the questionnaires to ETS.

Questionnaires were sent to the school principals with detailed instructions as to their distribution. All teachers of reading in grades 2, 4, and 6 and one teacher of non-compensatory reading at each of grades 2, 4, and 6 received Teacher Characteristics Questionnaires. All teachers of compensatory reading to students in those grades received blue Class and Program Characteristics Questionnaires. (The principal was given the definition of compensatory reading adopted for this study and was instructed to apply it to the reading teachers in his school.) Three teachers of non-compensatory reading received yellow Class and Program Characteristics Questionnaires; these were the three teachers, one at each grade level, whose classes contained the non-compensatory reading students with the lowest level of reading achievement.

Eighty percent (585) of the 731 schools contacted returned at least one questionnaire; 74 percent (543) returned a principal's questionnaire.

Quality control. Checks were made of the consistency and the stability of the Phase I data, in the former case by having an independent data source for one set of the questionnaire responses and in the latter case by questioning a subset of the original respondents. The check on data consistency was limited to Principal Questionnaire responses in a randomly selected twenty of the Phase I sample schools. (It was decided that to try to verify the teacher data would cause untold ill will, and to verify the student data would be prohibitively expensive.) For each of the twenty schools, the district superintendent was contacted by phone and asked to respond to twelve of the same questions as had been answered by the principal. Such items as mobility of the school population, per pupil expenditure, and existence and cost of compensatory reading programs were included. The overall level of agreement was about 58 percent, an estimate that is conservative because of the manner in which agreement was calculated. The level of agreement varied with the item under consideration in a predictable fashion: higher agreements were obtained in cases in which it was logical to assume that the information requested was within the province of the superintendent, and lower agreements were obtained for items that he was more removed from. It was concluded that the data being collected were reasonably consistent.

The stability check involved a random sample of schools representing about ten percent of the 535 from which questionnaires had been received. In this case, a second set of questionnaires, identical to the first set, was sent to each school six weeks after the first set had been sent. A total of sixty schools responded, yielding 56 Principal Questionnaires, 117 Teacher Characteristics Questionnaires, and 130 Class and Program Characteristics Questionnaires, 62 blue (compensatory) and 68 yellow (non-compensatory). Correlation coefficients between first and second responses were computed for each

item of each questionnaire. Once again the estimates of agreement are quite conservative because, in items in which degrees of agreement could have been obtained, any failure to agree perfectly was treated as failure to agree at all.

For the Teacher Characteristics Questionnaire, two types of items yielded different levels of agreement. Correlation coefficients for the items describing teacher background characteristics averaged greater than .90; for items measuring teachers' attitudes, the coefficients averaged around .60. The Teacher Characteristics Questionnaires yielded the greatest stability over time of the four types of questionnaires. Correlation coefficients varied with the type of information requested in the School Principal Questionnaire also. Items that reflected countable or immediately observable phenomena (school enrollment, for instance, and racial composition of the student body) yielded high levels of agreement between first and second sets of responses ($r = .99$ and $.92$ for the two items cited); items requiring the principals to make estimates or judgments (estimated incomes of school families, for example) were less stable: for the five levels of education, r 's varied from .58 to .81. In the Class and Program Characteristics Questionnaires, the variation among types of items and also among levels of agreement from first to second response was greatest. The lowest correlations were found to exist among the items that could most reasonably be expected to change over the short term: extent of use of newspapers in the classroom and amount of time spent by students in independent reading, to name two. High correlations existed among such items as the availability of auxiliary personnel and any special training of the teacher in the teaching of reading. There was also a slight but interesting tendency for the yellow Class and Program Characteristics Questionnaires, the non-compensatory ones, to exhibit greater stability from first to second response than the blue (compensatory) ones.

Overall, the results of these data checks seemed to indicate that the questionnaires were providing data that were indeed stable over time. Some items were exceptionally stable. Others were less

so but usually in predictable and easily explained ways. In all, it was felt that a reasonable degree of confidence was warranted in the reliability of the reporting in the questionnaires.

Non-respondent studies. Eighty percent (585) of the 731 schools contacted returned at least one questionnaire and 74 percent (543) returned at least a principal's questionnaire.

Two separate studies of non-response were conducted in an effort to determine the nature and extent of the bias introduced by non-respondents. The first study took the form of a comparison of the respondent and non-respondent groups in the variables used to supply stratification information for sample selection. The schools were compared for the following items: Title I participation during 1970-71, percent minority enrollment, average gross income for the ZIP code area in which the school was located, median family income for the county in which the school was located, school enrollment, urbanization of the school attendance area, and geographic region of the school attendance area. It was concluded on the basis of these comparisons that there was a small but consistent tendency for the non-respondent group to be less advantaged than the respondent group. Consistent with these results were those obtained in the second study of non-response which involved a telephone survey of the schools that did not participate. In this study, a subset of questionnaire variables describing important school characteristics was incorporated into a short interview schedule which was then administered by telephone during the winter of 1973. The variables included in the telephone questionnaire were the following, all asked with reference to the 1971-72 school year: presence or absence of a compensatory reading program, Title I funding, school enrollment, occupations of school families (by categories), percentage of students in grades 2, 4, and 6 reading below grade level, educational levels (by category) of heads of households of school families, school families receiving public assistance, racial composition of school population, annual incomes of school families (by category), and number of classrooms

in the school building. Again, there was a tendency for the non-respondents to be more disadvantaged than the respondents, but in the case of this non-respondent study, it was felt that a strong response mode bias clouded the nature of the difference. Because one set of data had been gathered by questionnaire and the other by telephone, and because the telephone questions were posed in a somewhat altered format from that of the original questionnaire (mainly because the original format was cumbersome in a telephone interview), it was almost impossible to tell whether the differences obtained were true or due to the response mode biases.

Study of error attributable to non-response. A study of error attributable to non-response was conducted using the 188 schools from which no Principal Questionnaires were received and 488 of the remaining 543 schools, those for whom School Principal and Class and Program Characteristics Questionnaires could be matched. By comparing all schools on 37 background variables derived either from the sampling tape or from the telephone follow-up of non-respondents, some estimates were made of what the responses of the missing schools might have been had they responded. Estimates were made with respect to eighty variables derived from the Class and Program Characteristics Questionnaires and thirty variables derived from the School Principal Questionnaires.

The results of the study seemed to indicate that for a few variables, the inclusion of non-respondents could have changed the average response by about thirty percent. The variables involved were those describing the timing of compensatory reading instruction (that is, whether or not compensatory reading instruction was provided in time released from other subjects and, if so, what subjects) and the availability and kinds of auxiliary personnel used in the teaching of reading. The estimated change would have been in the direction of indicating that the average school had more serious reading problems with the non-respondents included than would have been the case had the non-respondents not been included. For the other variables examined, it was judged that the effect of the non-respondents was not very important, that it was less than ten percent.

The development of program indices. The blue Class and Program Characteristics Questionnaire was completed by all teachers of compensatory reading in grades 2, 4, and 6. The section of the questionnaire that treated program characteristics yielded 85 variables descriptive of a broad array of instructional practices. It was consequently necessary to devise some means of grouping compensatory reading programs into a more limited number of meaningful types for purposes of reporting.

The 85 program variables were factor analyzed and 28 principal components with roots greater than one were extracted. These 28 factors were then rotated using the Varimax criterion. The 28 rotated factors were examined with respect to the proportions of the total variance explained by each, and a decision was made to perform similar analyses using three through ten factors respectively. These eight solutions were examined one at a time, and the five-factor solution was selected as the most meaningful. Table 9 (pp. 38-39, A Descriptive and Analytic Study of Compensatory Reading Programs, August 1973) shows the five factors and the variables which load highest on each.

The five factors or program indices were labeled with reference to the variables with the highest loadings, regardless of direction. The first factor was called "emphasis on basic reading activities" and defined chiefly by the amount of class time spent on matching letters, learning letters, developing visual discrimination and a sight vocabulary, and working in phonic or structural analysis. Interestingly, the use of a total phonics program is a variable that was represented by a high negative loading on this factor. This finding was interpreted to mean that although phonics activities are clearly an important component of programs in which the emphasis is on basic reading activities, there was not exclusive concentration on phonics.

The second factor was defined by the use of audio-visual equipment of various sorts. The high loading on "use of 'other' materials" was interpreted as related to the audio-visual choices since, in

the questionnaire format, the "other" option followed immediately upon several audio-visual choices. It was concluded that the respondents interpreted "other" to mean "other audio-visual." The high loading for "use of newspapers, magazines, and other periodicals" seemed consistent with a program that makes heavy use of materials other than books.

The third factor was called "emphasis on supplementary reading activities" and was defined by such variables as attention to creative writing, independent reading, and library activities. An interesting feature of this factor was its high loading for the organization of reading groups by specific projects.

The fourth factor was labeled "instructional flexibility." Its highest loading was for the tendency of the respondents to use the "other" options in many of the questionnaire items rather than to choose among the options provided. Additionally, there was a high negative loading for the use of basal readers. There was also a high positive loading for special training of the teacher in teaching reading to the disadvantaged. It was concluded that this factor might reflect a response set on the part of the respondents or might represent instruction that took a basically uncategorizeable form.

The fifth factor was defined by the offering of compensatory reading instruction during time released from other school subjects: other classwork; physical education, art, music, and/or seat work; social studies, science, and/or foreign language; and language arts. Interestingly, the size of the respective factor loadings (reflecting different aspects of the curriculum being sacrificed to reading instruction) differed in reasonably predictable ways: mathematics, the subject one would expect to be least likely to be preempted by compensatory reading instruction, indeed had the lowest loading, at least of those variables that had high loadings on this factor. "Other classwork" was the variable with the highest loading.

These five factors together accounted for nineteen percent of the total variance. While this did not seem a strikingly large proportion, it represented a parsimonious reduction of the number of variables and one that made some inherent sense. Moreover, the first 28 principal components accounted for only 58 percent of the total variance, so that no one factor beyond the first five added appreciably to the proportion of variance accounted for. Finally, some support was lent the notion of these particular factors by virtue of their correspondence with the results of an independent analysis performed on the same questionnaire variables, to be described in the next few paragraphs.

Development of program clusters. In addition to the principal components analysis just described, a hierarchical group centroid analysis was performed on the same data. In this method, associations among clusters of variables are computed as correlations between Z-score sums over the respective variables in each cluster. At the first level of clustering the most highly correlated pair of variables is joined to form a new variable equivalent to the sum of Z scores for the two variables chosen. In a similar fashion, hierarchical clustering is advanced through successive levels by joining whichever pair of remaining members has the largest association coefficient, that is, the highest correlation in absolute value. The outcome of the hierarchical group centroid cluster analysis is a dendrogram which graphically represents the associations among the observed variables and/or their linear combinations.

The results of this analysis tended to support the results obtained from the factor analysis. Each of the five factors or program indices derived from the factor analysis has an identifiable counterpart in the hierarchical cluster analysis.

The first cluster in order of magnitude of the correlation between variables is initially defined by (a) the tendency of the teachers to report class groupings by criteria other than those listed in the Class and Program Characteristics Questionnaire and (b) the tendency of teachers to report their major approach to the

teaching of compensatory reading as other than the ones listed in the questionnaire (correlation .68). At a somewhat lower level of correlation (.42) the cluster is augmented by (a) the tendency for the teacher to have special training in the teaching of reading or educational techniques for the disadvantaged and (b) the reported amount of in-school time devoted to reading activities other than those listed in the questionnaire. This cluster can be seen to correspond to the fourth factor or program index in Table 9 (pp. 38-39, A Descriptive and Analytic Study of Compensatory Reading Programs, August 1973). The second cluster to emerge from the analysis corresponds to the first factor or program index in Table 9 and is defined by the following variables: time spent by a typical pupil (a) matching letters or words, (b) learning letters or words, at the .67 correlational level; and (c) improving motor abilities related to reading, (d) increasing attention span, (e) developing visual discrimination, and (f) developing a sight vocabulary, all correlated .36.

The third cluster to emerge is defined by (a) the tendency to carry out compensatory reading instruction during regular school hours in time released from other class work and (b) the tendency to carry out compensatory reading instruction in time released from physical education, art, music, seat work, or study time, these two correlated at .64; and (c) the tendency to carry out compensatory reading instruction in time released from social studies, science, or foreign language, all three correlated at .48. This cluster corresponds to the fifth factor or program index in Table 9.

The fourth through seventh clusters to emerge did not correspond to any of the five program indices. The eighth cluster corresponds to the second factor or program index, and is defined by the following variables: (a) the tendency to use motion pictures and/or filmstrips in compensatory reading instruction and (b) the tendency to use slides and transparencies in compensatory reading instruction, the two correlated at .48; and (c) the tendency to use tape recordings and records in compensatory reading instruction, correlated with the other two at .43.

The final cluster, corresponding to the third program index in Table 9, is defined by two variables correlated at the .37 level: (a) amount of in-school time devoted to independent reading and (b) amount of in-school time devoted to library activities; and by three additional variables at the .32 correlational level: amount of time spent by a typical pupil in compensatory reading class on (a) creative writing, (b) reading for enjoyment, and (c) enriching cultural background.

The convergence of the two methods on a single outcome was viewed as lending support and credence to the obtained factor structure.

Development of school clusters. The major objective of data analysis during the first phase of the study was to define a limited number of program types. Since one of the objectives of the second phase of the study was to be able to identify types of programs that are associated with gains on the criterion variables, it was necessary to derive program types that would be both stable and replicable. Consequently, a cluster analysis was undertaken using the indices developed by the factor analytic techniques described earlier.

Since an among/within analysis showed relatively minor variation in program indices across grades within schools, the obverse factor analysis used to form the program clusters was performed for the grades combined. Thus, any given school was assigned to only one cluster. By virtue of the eigenvalues obtained, it was decided to use the first five factors as the basis for clustering schools. A Varimax rotation was performed and each school was assigned to one of ten clusters (defined by the poles of the five factors) on the basis of its highest factor loading in terms of absolute value. The clusters are described in Table 1 below. The table shows a matrix of the correlations between the five program indices and the five bipolar factors. Some words describing the clusters follow the table.

Table 1
Correlations Between Program Indices and School Clusters*

Reading Program Indices	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B
I. Emphasis on basic reading activities	+0.09	-0.09	-0.62	+0.62	+0.75	-0.75	-0.09	+0.09	-0.01	+0.01
II. Use of audio-visual equipment and materials	+0.44	-0.44	-0.54	+0.54	-0.62	+0.62	-0.20	+0.20	+0.19	-0.19
III. Emphasis on supplementary reading activities	+0.23	-0.23	-0.02	+0.02	+0.13	-0.13	+0.86	-0.86	+0.33	-0.33
IV. Instructional flexibility--tendency not to select questionnaire questions given	-0.58	+0.58	-0.56	+0.56	-0.27	+0.27	+0.25	-0.25	-0.43	+0.43
V. Compensatory reading program offered during time released from other school subjects	+0.59	-0.59	+0.08	-0.08	-0.09	+0.09	+0.16	-0.16	-0.70	+0.70

*Correlations were computed over all schools, between the schools' factor scores on reading program indices and their obverse factor scores on school clusters.

The first school cluster was characterized, by virtue of its high positive correlations with indices II and V and moderately high negative correlation with index IV, by an emphasis on the use of audio-visual equipment and materials and by compensatory reading instruction offered during released time. Schools in this cluster tended to use unique (outside of the options offered by the questionnaire) instructional approaches or to believe and/or report that they used such approaches.

The second cluster had no high positive correlations with any of the five program indices. It was characterized mainly by substantial negative correlations with indices I, II, and IV. Schools in this cluster tended to deemphasize basic reading activities, audio-visual materials and equipment, and unique instructional approaches.

Schools in the third cluster clearly concentrated their efforts on the basic techniques of reading instruction, probably to the exclusion of audio-visual aids and equipment. The cluster was characterized by substantial correlations with two program indices--positive with index I and negative with index II.

The fourth cluster was defined rather purely by an emphasis on supplementary reading activities.

The fifth cluster, with one substantial correlation, was characterized by the avoidance of compensatory reading programs offered during time released from other subjects. The schools in this cluster displayed a tendency to report their programs in terms of the options provided by the questionnaires.

The formation of ten clusters was accomplished by using the correlations between the five program indices and the five bipolar factors. An eleventh cluster was formed by grouping those schools that did not have substantially high loadings on any single index or group of indices. Thus, the eleventh cluster was characterized by schools having small and only slightly differing loadings on all five bipolar factors.

A brief summary of some of the major findings of Phase I. The schools that participated in Phase I were categorized by funding source for the purpose of certain comparisons, but also because the Phase II school selection reflected strata based on funding categories. Comparisons were made among schools with compensatory reading programs funded totally by Title I (Total Title I schools), schools with compensatory reading programs funded partially by Title I (Partial Title I schools), schools with compensatory reading programs funded entirely by sources other than Title I (non-Title I schools), and schools that reported having no compensatory reading programs at all according to the definition given by this study (NCR schools). The categorizations bear no relationship to amount of funding, but are based simply on the sources of funding for the compensatory reading programs listed by the principal in the questionnaire he completed.

It was discovered, comparing the four categories of schools on a number of the variables tapped by the School Principal Questionnaire, that there were neither many nor large differences among them, not nearly as many as had been expected. There did appear to be a trend in the data indicating that the Partial Title I schools were more disadvantaged economically and educationally than were the Total Title I schools. Differences supporting this observed trend included, for the Partial Title I schools:

1. a less adequate number of teacher aides,
2. a higher proportion of unskilled workers among school families,
3. a lower proportion of families with annual incomes of \$12,000 or more and a higher proportion with annual incomes of between \$3,000 and \$5,999,
4. a lower proportion of white students and a higher proportion of black students,
5. a lower per pupil expenditure for both the school and the district, and
6. a higher proportion of schools expecting to offer a summer program in the year of the study.

Hypotheses advanced to explain this finding included the possibility that the greater need among partial Title I schools resulted in their devoting resources other than Title I funds to the solution of reading problems; the possible presence of different (additional) funding sources in certain areas of the country; and differences related to other intervening variables such as school size, program size, and number of programs per school.

Comparisons were made among schools in the four funding categories on variables that had been gathered via the Teacher Characteristics Questionnaire. In this case, too, there were found to exist very few major differences. The tendency of the Partial Title I schools to appear more disadvantaged than the Total Title I schools was supported by the teacher data as well as the school data. Partial Title I schools were found to have more teachers without certificates or with temporary certificates than other categories of schools, and also more teachers without bachelor's degrees. Partial Title I schools were also found to have fewer teachers with special training in the diagnosis and treatment of reading problems.

Teachers seemed consistent across all school funding categories in their satisfaction with conditions in their schools, beliefs about the value of compensatory education, and attitudes toward the capabilities of disadvantaged students.

Selected pairs of variables from the three sets of questionnaires were examined to ascertain what degree of relationship might exist between them. Contingency coefficients were developed for these paired variables. It was discovered that total school enrollment bore a moderate relationship to seven of the indicators of socioeconomic status derived from the principal questionnaires. School size was found to be more highly related to the number of compensatory reading programs in a school than to the presence or absence of a compensatory reading program. Among the teacher characteristics, training and certification were found to bear only slight relationship to teachers' freedom to choose their schools or classes, their

perceptions of their administrators, or their beliefs about the value of compensatory reading programs. Contrary to expectations, the variable tapping ethnicity match between student and teacher was found to be unrelated to any other teacher variable in the questionnaire.

The Phase I population was examined with respect to the distribution and density of compensatory reading programs in it. It was learned that Total Title I schools were found most frequently in the northeast section of the U.S. (see the Phase I report for the assignment of states to geographic regions) and in the suburbs of cities of between 50 and 200 thousand population. Partial Title I schools were found most frequently in the South and in the suburbs of middle-sized cities. There was some tendency for the larger schools in the sample (enrollment above 500) to make up a greater proportion of the Total Title I schools than of other funding categories. No regional differences were noted among schools in the number of compensatory reading programs they reported. With respect to racial composition of the student body, it was noted that Partial Title I schools reported a greater concentration of non-white students than did Total Title I schools (or any of the other categories, in fact), a finding that is consistent with the observed trend for Partial Title I schools to seem more disadvantaged than Total Title I schools.

The funding categories were then examined with respect to the school clusters described earlier in this report. The relationships were complicated and have still not been thoroughly explained. It was hoped that the subsequent phases of the study would shed more light on the cluster-funding relationships.

An analysis of variance performed on the school clusters indicated that the obtained school clusters differed significantly from one another when measured with respect to the five program indices. Thus the cluster typology was shown to be effective as indicated by an F test of the among/within variance. Once again, examination of the exact nature of the differences was deferred to the second phase of the study.

One analysis that is of interest was performed in an effort to determine the extent of program variation among and within schools. An analysis of variance was performed on the program indices separately by the grades (2, 4, and 6) for which individual programs were described as well as for all three grades combined. It was learned that for grades 2, 4, and 6 combined, there was more variability among schools than among teachers within schools. For each of grades 2, 4, and 6 separately, the results were similar, but the among schools effects were less marked. It was on the basis of this finding, indicating more educational consistency among the grades within a school than within a grade across schools, that the clustering operation was performed using average program per school. It is also a finding that shaped other, later decisions in the study.

Teacher variables. By performing a latent trait item analysis¹ on three groups of items from the Teacher Characteristics Questionnaire, three teacher variables were obtained for further analysis. The variables were (1) a measure of the teachers' experience, (2) a measure of the teachers' satisfaction with the school administration, and (3) a measure of the teachers' attitudes toward the academic capabilities of disadvantaged students. The three variables were then examined with respect to their incidence among teachers of compensatory and non-compensatory reading. Only one of the traits, that measuring teachers' attitudes toward their administrations, yielded statistically significant differences between the two kinds of teachers (CR and NCR), the teachers of compensatory reading having more positive attitudes than the teachers of non-compensatory reading. The variables were then examined with respect to the school clusters described earlier. For purposes of this analysis, each of the five "A" clusters (see Table 1) was compared with the average of the other four "A" clusters plus the eleventh. In addition, each of the five clusters was compared with its corresponding (bipolar) cluster and the eleventh. Differences existed in clusters 1A and 1B and in clusters 2A and 2B for two of the latent traits, those measuring teacher training and experience²

¹Samejima, F. Estimation of latent ability using a response pattern of graded scores. Psychometrika, Monograph No. 17, Vol. 34, No. 4, Part 2, December 1969.

²Cluster 1A $\gtrless$ cluster 1B ($p = .01$; $r^2 = .0087$); cluster 2A $>$ cluster 2B ($p = .03$; $r^2 = .0018$)

and teacher attitude toward administration.¹ In both cases, the positive cluster exhibited more of the trait in question than the negative. In clusters 3A and 3B, a difference was found to exist with respect to teachers' attitudes toward disadvantaged students, also reflecting a greater amount in the positive cluster.² Finally, for clusters 4A and 4B, a difference was found to exist with respect to teacher training and experience,³ again with the greater amount in the positive cluster. No differences were found for clusters 5A and 5B.

Socioeconomic status. Using the same graded latent trait technique, a measure of socioeconomic status was derived from a group of questions in the School Principal Questionnaire. The school program clusters were then examined with respect to differences among them in socioeconomic status in the same manner as the examination for differences in teacher traits. Schools in cluster 2A were found to have higher scores on the index of socioeconomic status than the average of the other four "A" clusters plus the eleventh.⁴ Schools in cluster 4A were found to reflect lower socioeconomic status than the average of the other "A" clusters plus the eleventh.⁵ Schools in clusters 2A and 3B were found to have higher scores on the index of socioeconomic status than schools in clusters 2B and 3A respectively.⁶

These results and the results of other analyses of the teacher traits and the measure of socioeconomic status are described in detail in an addendum to the Phase I Report (Addendum, Phase I Report. Contract No. OEC-O-71-3715. A Descriptive and Analytic Study of Compensatory Reading Programs. June 1975). The addendum also contains a brief summary of trends in reading instruction.

¹Cluster 1A > cluster 1B ($p = .0005$; $r^2 = .0087$)

²Cluster 3A > cluster 3B ($p = .03$; $r^2 = .0020$)

³Cluster 4A > cluster 4B ($p = .01$; $r^2 = .0024$)

⁴ $p = .01$; $r^2 = .0139$

⁵ $p = .02$; $r^2 = .0121$

⁶Cluster 2A > cluster 2B ($p = .0003$; $r^2 = .0271$)
Cluster 3B > cluster 3A ($p = .0001$; $r^2 = .0342$)

Chapter II. PHASE II (1972-73 SCHOOL YEAR)

Introduction

The 1972-73 school year study was designed to answer questions about the effectiveness of compensatory reading programs. Student performance was measured at the beginning and end of the school year using a battery of reading achievement measures and a measure of attitude toward reading. Programs and instructional treatments were described by means of the questionnaires devised for Phase I of this study and administered to principals and teachers of students included in the study. Some characteristics of the student population were described by means of an individual student document. Student exposure to educational treatments was measured by means of a daily attendance record. This document also described movements of students in and out of compensatory reading programs. Finally, in a small subset of schools, educational treatment was described at the classroom level by means of an observational technique that reported time-sampled behaviors of students and/or teachers during reading instruction.

Apart from the very obvious goals of measuring program effectiveness and describing the various programs that comprised the treatment, data were gathered such that the initial differences between program participants and non-participants and among participants in different types of programs could be documented and fed into the analyses. Because this study was descriptive and not an experimental study in which treatments were randomly assigned, there existed a need to adjust all data for preexisting group differences. Several alternate analytic methods were used in the process of attempting to adjust for preexisting differences among the student groups. The major analysis took the form of curvilinear covariate analysis with the pretest as the independent and posttest as the dependent variable. Analyses were conducted separately for each grade and for each subtest of the test battery. A second approach involved the analysis of variance of difference (between pretest and posttest) scores. Finally, an analysis of the difference between standardized pretest and standardized posttest scores

(treatment-effect correlations) was performed. The results of these alternative analyses are presented and the investigators' choice as to the most appropriate analysis indicated.

The sections that follow describe the instrumentation and data collection procedures for the 1972-73 school year study.

Instrumentation

The instruments used for data collection during the 1972-73 school year were the following:

1. A battery of tests administered to all students in grades 2, 4, and 6 of the sample schools in the fall and again in the spring. The battery included a reading achievement measure composed of two subtests of the grade-appropriate Metropolitan Achievement Test and either the Cooperative Primary or STEP Reading Test. There was also a short measure of attitude toward reading, one form for second graders and a different form for fourth and sixth graders.
2. Records of daily attendance at reading instruction, both compensatory and non-compensatory, for all students in grades 2, 4, and 6 of the sample schools.
3. Questionnaires describing the schools, teachers, and reading programs represented by the sample schools. The questionnaires were basically the same ones that had been used in the Spring 1972 survey.
4. Individual student questionnaires containing biographical data for individual students in the study. These questionnaires were completed by an adult in each school using information taken from school records.

Questionnaire revision. The questionnaires were revised only minimally for use in Phase II. With certain minor exceptions, the item formats were judged to have been satisfactory for eliciting the desired information, and there seemed an advantage in having roughly comparable Phase I and Phase II questionnaire responses. Where item analyses indicated that there might be some confusion in the format,

item response categories were collapsed or revised. Few items were so changed, however, and the questionnaires distributed in Phase II were almost identical with those completed in Phase I.

Reading achievement test selection. Use of the reading portions of the Metropolitan Achievement Tests was specified in the original RFP for this project. The two major criteria for the selection of outcome measures were the existence of national norms and a maximum time limit for the complete battery of 1-1/2 hours. It was also deemed desirable that the series chosen have appropriate tests for all three of the grade levels (2, 4, and 6) included in this study. Finally, since not a great deal was known about the student population to be tested, it seemed advisable to have the test battery represent as wide a range of achievement at each grade level as possible. In choosing an additional set of tests, then, the need was for the new set to complement the Metropolitan tests in providing that range of achievement. The Metropolitan series was felt to have a "low floor"; consequently, the appropriate STEP Reading Tests and the Cooperative Primary Reading Test were included to provide a "high ceiling" to the battery. The tests and forms used at the three grade levels were the following:

Second Grade:

Metropolitan Achievement Test, Primary Level. Form G Fall and
Form F Spring: Word Knowledge and Reading subtests
Cooperative Primary Reading Test. Form 12A Fall and Form 12B
Spring

Fourth Grade:

Metropolitan Achievement Test, Elementary Level. Form G Fall
and Form F Spring: Word Knowledge and Reading subtests
Cooperative Primary Reading Test. Form 23A Fall and Form 23B
Spring

Sixth Grade:

Metropolitan Achievement Test, Elementary Level. Form G Fall
and Form F Spring: Word Knowledge and Reading subtests
Sequential Tests of Educational Progress II, Level 4. Form A
Fall and Form B Spring

Attitude test development. A survey of the literature and of available instrumentation revealed that there existed no suitable measure of attitude toward reading or attitude toward self as reader appropriate to the ages of the subjects in this study. Since it was felt that one of the important outcomes of any reading program (and one, incidently, that is mentioned frequently by teachers as a major goal of their instruction) is the improvement of the student's attitude toward reading and toward himself as a reader, it was decided that a measure of such variables should be developed. The size of the student sample (close to 50,000 students) dictated that the instrument be a paper-and-pencil one. A test for second graders also needed to be free from reading obstacles, since it was assumed that at least some of the second graders in the study would be non-readers. Thus, two forms of the instrument were developed, one for use with second graders and another for use with fourth graders and sixth graders. In both forms respondents were asked to react to a number of statements involving different reading activities and different social contexts. For example, from the second grade instrument, "My sister is reading me a story" and "I am sitting under a tree reading a book." From the fourth and sixth grade instrument, "My classmates like to hear me read" and "I never read unless someone forces me." Second graders were asked to indicate their responses by marking one of a series of faces whose expressions ranged from very happy to very unhappy. Fourth and sixth graders responded by circling one of four symbols labeled respectively "strongly agree," "agree," "disagree," and "strongly disagree." In the case of both instruments, the statements were read to the respondents in order to minimize the effects of poor reading ability.

Pretrials of the attitude instruments were conducted on students of appropriate grade levels in four schools in the Princeton, N.J. area. After the tests had been administered, students were invited to react to the tests and to the items. On the basis of these sessions, the format for the instruments was established. A more extensive pretest

for the purpose of item analysis was conducted in several schools in Philadelphia and in the Princeton, N.J. area. The tests were administered in their pre-final form to 300 students at each of the three grade levels. Item analyses were performed for each grade level and items with unacceptable statistics (part-whole correlations lower than .5) were deleted. In its final form, the second grade attitude measure consisted of four practice items and 24 real items, and could be administered in ten minutes. The fourth and sixth grade measure contained four practice items and 45 real items and took about fifteen minutes to administer.

Attendance record. The purpose of the attendance record was to provide a measure of the exposure of each student in the study to the treatment described in the questionnaires. Additionally, the record was to provide some system for tracking the movement of students in and out of compensatory reading programs. Recognizing that attendance records are valuable only if kept regularly, some safeguards were built into the record itself.

The attendance record was a four-part form filled out by a teacher of reading for each class she taught containing students in grades 2, 4, or 6. Records were to be kept daily and handed in weekly by the teacher to the coordinator for her school. Coordinators accumulated records and returned them to ETS on a monthly basis. In addition to spaces on the form for recording the presence of each study child, there were codes to indicate that the class had been canceled for the day, that there was a school holiday, or that a child had been excused from a particular class on a particular day. There were also provisions for indicating the disposition of any child who left the class: whether he went to another class in the same school or to another school, to another compensatory reading program or out of compensatory reading entirely. If a student attended more than one reading class, a record was kept for him in each reading class he attended.

The form was reviewed by several principals and teachers before it was produced in quantity.

Individual student questionnaire. The individual student questionnaire was intended to gather demographic data about students in order to check the group estimates of the same variables that were provided by teachers and principals in their questionnaire responses. While it had been agreed from the start that the appropriate error term for this study was the class mean, since the unit of analysis was to be the instructional group, it had never been established whether a group estimate made by a teacher or principal was really the best estimate of the statistic in question. It was decided, therefore, to gather both group estimates and individual statistics for which group means could be calculated. Variables included in the individual student questionnaire were indices of socioeconomic status, participation in the federal free lunch program, previous participation in compensatory reading programs, attendance at preschool and/or kindergarten, and language spoken in the student's home if not English. Coordinators were instructed to fill out these questionnaires using teachers' or school records.

The forms were reviewed by several principals and teachers in order to determine whether the information requested was easily obtainable. Coordinators received honoraria for all duties performed, including the completion of the individual student questionnaire.

Student and Teacher Observation Scales¹

The teacher and student observation instruments were developed specifically for the study of reading activities in elementary school classrooms. These observation instruments were designed to describe the major types of interaction during reading instruction so that a systematic study of teachers' and students' activities during reading instruction could be undertaken.

The observation instruments were not designed to evaluate any teacher who was observed. The purpose of the observation instruments was to describe the classroom activities of the teachers and students

¹The material in this and the following two sections (through Table 3 on page 31) is cited from Quirk, Thomas J., Trismen, Donald A, Weinberg, Susan F., and Nalin, Katherine B. The Classroom Behavior of Teachers and Students During Compensatory Reading Instruction. PR 74-5, ETS, September 1973. Note: PR 74-5 is included as an Appendix of the Final Report, Volume II.

in a large variety of types of reading classes so that the relationship between what teachers and students do during reading instruction, and how well the students learn to read, could be studied systematically.

Development of The Teacher Observation Scale - Reading

The first task involved in describing the classroom behavior of teachers and students during compensatory reading instruction was to develop the categories by which these classroom behaviors would be coded. The research team attempted to define categories of teacher and student behavior applicable to reading instruction in general, whether or not this information took place in compensatory reading classes.

In order to study systematically the types of activities that occurred in reading classes, a number of second, fourth, and sixth grade reading classes were observed during the developmental phase of this project. During these visits, a log was kept of the verbal and non-verbal activities that took place. Each activity was then written on an index card so that these cards could be used later to aid in classifying the activities into categories of similar behaviors. The resulting categories were pilot tested and revised, and the Teacher Observation Scale - Reading finally contained two dimensions: (1) the Mode of instruction, and (2) the Content of instruction.

The Mode dimension described the manner in which materials or stimuli were presented to the students in the classroom by the teacher. The Content dimension described the type of activity being performed by the teacher.

The observation instrument was designed to be used with a stopwatch so that teacher behaviors in the classroom could be coded in fixed-time intervals. The observation procedure required the observer to observe the teacher and to code both the Mode and the Content of the event that was occurring at the end of every ten-second interval.

All of the classroom observers used a coding form which included the five Mode categories denoted by separate rows and the eleven Content categories denoted by the numbers 1-11. The observed activity was represented by placing the number of the Content category which described the observed activity into the appropriate Mode row on the coding sheet. A sample coding sheet is presented in Table 2.

Table 2

Sample Coding Sheet for Coding Mode-Content Combination

<u>Content</u>		
<u>Reading</u>	<u>Instructional</u>	<u>Other</u>
1. Comp.	5. Sp.	9. Pos. Fdbk.
2. Pron. & Wd. Rec.	6. List. Inst.	10. Neg. Fdbk.
3. Lang. Struc.	7. Non-Rdg. Inst.	11. Ex.
4. Rdg. Sil.	8. Man. Inst.	

<u>Mode</u>	
T-talk	
Other Adult talk	
S-talk	
Mach.	
No-talk	

The categories for the Teacher Observation Scale - Reading, were pilot tested by training elementary school teachers as observers and revised until the members of the research team were satisfied that the resultant categories accurately described the behavior of teachers during reading instruction. These categories were further revised until they were well-defined, distinct, and could be coded reliably by classroom observers. More complete descriptions of the coding categories are available elsewhere (Quirk, Nalin, & Weinberg, "The Development of a Teacher Observation Instrument for Reading Instruction," PR-73-39, ETS, June 1973).

Purpose And Goals of Observing Students During Reading Instruction

The purpose of observing the behavior of the students during compensatory reading instruction was to study the similarity between the activities of the teachers and those of the students in the compensatory reading classes. From the student's point of view, what is important to his development in reading ability is not only the activities which the teacher is performing, but also those activities which become his personal experiences; in short, those stimuli to which the student is attending in the classroom become the focus of his particular learning experiences. For example, if the teacher is presenting an explanation to the class dealing with the comprehension of a paragraph, while several of the students are working math problems at their desks, it is the mathematics problems that become the focus of the learning behavior of these students, and not the teacher's comprehension activities. By observing the pattern of student behavior in the classroom as well as the teacher's behavior, it is possible to describe both of these important aspects of behavior.

Development of The Student Observation Scale - Reading

The categories of the Student Observation Scale - Reading were designed to apply to student reading activities whether or not these activities took place in compensatory reading classes. The categories for the Student Observation Scale were developed in the same way as those for the Teacher Observation Scale. The resulting categories were pilot tested and revised until the Student Observation Scale - Reading finally included two dimensions: (1) the Group of instruction, and (2) the Content of instruction.

The Group dimension described the type of group the student was paying attention to. The Content dimension described the kind or type of activity being performed by the student.

This observation instrument was designed to be used with a stopwatch so that student activities in the classroom could be coded in fixed-time intervals. The observation procedure required the observer to watch a different student during each 15-second interval and to decide what activity each student was engaged in as the sweep-hand of the stopwatch completed each 15-second interval. During each visit in every classroom the observer coded the behavior of a different student every 15 seconds until the whole class had been observed, at which time the procedure was repeated until a total of 15 minutes of coding by the observer had taken place.

All of the student observers used a coding form which included the Group categories denoted by four columns (Teacher, Other Adult, Peer, Alone) and the twelve Content categories denoted by the numbers 1-12. The observed activity was represented by placing the number of the Content category which described the observed activity into the appropriate Group column on the coding sheet. A sample coding sheet is presented in Table 3.

The categories of the Student Observation Scale - Reading were pilot tested by training elementary teachers as observers and revised until the resultant categories accurately described the behavior of students during reading instruction. These categories were further revised until they were well-defined, distinct, and could be coded reliably by classroom observers. More complete descriptions of the coding categories are available elsewhere (Quirk, Weinberg, & Nalin, "The Development of A Student Observation Instrument for Reading Instruction," PR 73-38, ETS, June 1973).

Table 3

Sample Coding Sheet for Coding Group-Content Combination

Content

<u>Reading</u>	<u>Other Instructional</u>	<u>Other</u>
1. Comp.	5. Spelling	10. Pos. Fdbk.
2. Pron. & Wd. Rec.	6. Writing	11. Neg. Fdbk.
3. Lang. Struc.	7. List. Inst.	12. Ex.
4. Rdg. Silently	8. Non-Rdg. Inst.	
	9. Man. Inst.	

Group

Teacher	Other Adult	Peer	Alone

Sample Selection: Time Constraints and Stratification

It will be recalled that one of the purposes of the Phase I data collection was to obtain a sample of schools that would serve as a population from which to draw a subsample of schools for Phase II. The intention was to have about 300 schools in the Phase II sample, 100 from each of three strata: schools with compensatory reading programs funded by Title I, schools with compensatory reading programs funded by sources other than Title I, and schools with no compensatory reading programs according to the definition of compensatory reading programs adopted by this study. The questionnaires

were circulated in April 1972, with the expectation that prospective Phase II schools could be contacted before school closed for the summer. This turned out to have been an unrealistic expectation. Questionnaire returns were slow enough to arouse some concern about whether there would be sufficient time to sample systematically and still contact school principals for permission to include the school in Phase II before the end of the school year. Since local coordinators (for the supervision of data collection) needed to be chosen before the start of school in the fall, the time problem was quite a serious one. It was, therefore, decided not to wait for all questionnaire returns before contacting schools about participation in Phase II. As the returns came in, schools were designated as belonging to one or another of the three strata, and were asked immediately to participate in the second phase of the study. The Phase II target sample consisted, therefore, of the first 100 schools (that responded to Phase I) with compensatory reading programs funded by Title I, the first 100 schools with compensatory reading programs funded by sources other than Title I, and all of the schools (since there were fewer than 100) that reported having no compensatory reading programs at all. The total number of schools chosen in this manner was 221.

Data Collection

Once again, every effort was made to ensure maximum participation of the sample schools in the study, and to obtain complete data from the participating schools. Although district superintendents had given permission for Phase II participation at the time of their response to Phase I, letters were sent to superintendents informing them of the progress and activities of the study. Permission was asked once again of the principals of the schools selected; follow-up telephone calls were made to the principals who did not respond to the letter of request.

In each school a local coordinator supervised the data collection for his school. Most frequently, coordinators were individuals within the schools who had been recommended by the principal; in some instances the coordinator was the principal himself. The coordinator received an honorarium of \$100. His duties included the selection and training of test administrators; the scheduling and supervision

of testing in the school; the receipt, distribution, and return of test materials; the distribution, collection, and return of attendance records; the distribution of principal and teacher questionnaires; and the completion of individual student questionnaires. The coordinator was also charged with public relations for the study in the school and the community and with referring all substantive questions to ETS. In the "noteworthy" schools (see pp. 34-35), where classroom observations were carried out, the coordinator also helped to recruit observers and to schedule observations in classrooms.

Test administrators were hired from lists of substitute or retired teachers for the schools or districts involved; under no circumstances was a classroom teacher permitted to be a test administrator for her own class. Teachers were asked to help with the administration of tests, however, as proctors.

A subgroup of the sample schools was visited by ETS regional office personnel during the testing periods in order to monitor the collection of data. No outstanding deviations from specified procedures were documented.

Fall testing was carried out during the third full week after the opening of school. Test booklets and answer sheets were shipped so as to arrive just prior to the start of testing. The test materials were then returned to ETS for scoring (and disposal of unused booklets and answer sheets) immediately after the testing. New materials were shipped in the spring. Spring testing was carried out in the fifth week before the end of the school year.

Attendance records were initiated during the week immediately following the fall test administration; that is, during the fourth full week after the start of school. Teachers were instructed to turn in their completed attendance records at the end of each week. The coordinator then sent the accumulated attendance records to ETS at the end of four weeks. In this way there was some assurance that records were being kept regularly.

The distribution of questionnaires in each school took the following form: each principal received a (white) School Principal Question-

naire. Each classroom teacher of reading in grades 2, 4, and 6, and each teacher involved in any aspect of the reading program for students in these grades received a (tan) Teacher Characteristics Questionnaire. In addition, each teacher received at least one Class and Program Characteristic Questionnaire. Teachers of students designated by the principal as compensatory reading students according to the definition of this study received (blue) Compensatory Class and Program Characteristics Questionnaires. Teachers of non-compensatory reading received (yellow) Non-compensatory Class and Program Characteristics Questionnaires. Teachers of both compensatory and non-compensatory students received both types of Class and Program Characteristics Questionnaires. Postage-paid return envelopes were provided along with the questionnaires to assure teachers that their responses were not being reviewed by others within the school. Teachers were paid \$100 over the course of the school year for their participation in the study.

Individual Student Questionnaires were technically the responsibility of the local coordinators, the information to be obtained from students' cumulative records. Many coordinators obtained the help of other personnel in the school in the completion of these documents.

Selection of Noteworthy Schools

The original RFP for the Compensatory Reading Project outlined a sub-study of "unusual" or "non-routine" kinds of compensatory reading efforts. This sub-study was to involve a sample of "exemplary reading efforts" (RFP, p. 18), originally ten in number, to be selected mainly from among programs named in USOE-sponsored surveys or recommended by state departments of education but also from recommendations solicited by ETS. An amendment to the proposal raised the number from ten to fifty, but the final sample included about thirty programs that were studied during the 1972-73 academic year. The programs were selected in the following manner.

A universe of about sixty programs was gathered by an assortment of means. First, all programs included in USOE-sponsored surveys and in NCES program information bulletins were automatically considered

providing the grade levels of the target populations were consistent with those of the larger study (grades 2, 4, and 6). In addition, Title I coordinators in some states were asked to nominate programs that they felt to be exemplary. Finally, members of the Advisory Board to the study, the reading consultants to the study, and the directors of testing in ten large cities were asked to suggest programs that they felt to be unusual. During the winter of 1972, telephone calls were made to each of the schools in which nominated programs existed in order to obtain some general information about the programs, their funding, and whether they would be continuing into academic year 1972-73. On the basis of the data collected in the phone calls, ETS project administrators eliminated some programs that were not considered unusual and others whose continuance was in doubt. The remaining programs were visited by ETS staff during the first six months of 1972. Each visit resulted in a fairly extensive report of the program under consideration. The final screening was carried out using the information supplied by the site visit reports. In this manner, 34 schools in 21 cities were chosen for inclusion in the sub-study, representing a total of 156 classes. These schools were chosen so as to have the final sample represent the widest possible variety of instructional characteristics. There was no effectiveness criterion applied to these programs or schools; the sole criterion was one of non-routineness.

All of the data collection that was performed in the 1972-73 school year sample schools was performed in the noteworthy sample schools as well, according to the same schedule. In addition, classroom observations were conducted in the noteworthy schools using the instruments described earlier in this section. The results of the classroom observations are presented in the Addendum to this volume.

Cost Effectiveness Study

Finally, a cost effectiveness study was performed by RMC Research Corporation under a subcontract to ETS. A subsample of 100 of the Phase II schools (including the noteworthy sample) were visited by staff members from RMC in order to gather information about the costs

of reading programs in the schools. The cost data have been synthesized with the effectiveness data gathered by ETS and will be reported separately. The following reports have been produced:

An Evaluation of the Cost Effectiveness of Alternative Compensatory Reading Programs

Volume I: Cost Analysis (Dienemann et al., September 1974)

Volume II: Model Sensitivity (Flynn, February 1976)

Volume III: Cost Effectiveness (Flynn et al., February 1976)

Volume IV: Cost Analysis of Summer Programs (Al-Salam and Flynn, February 1976)

Chapter III. RESULTS

Relationships Between The Spring 1972 (Phase I) and The 1972-73 School Year (Phase II) Samples

The sample for the 1972-73 school year (Phase II) consisted of a subset of the schools which had participated in the Spring 1972 (Phase I) questionnaire survey. Inasmuch as considerable advance preparation was required of schools participating in Phase II, it was necessary to contact them and obtain their consent prior to the closing of school in Spring 1972. Phase I questionnaires were being received back from schools during this same period, so that it was not possible to identify the complete set of schools which participated in Phase I before selecting the Phase II sample. However, it was desirable to be sure that three categories of schools were adequately represented in the Phase II sample: (a) schools having compensatory reading programs supported by Title I, (b) schools having compensatory reading programs not supported by Title I, and (c) schools without compensatory reading programs. It was, therefore, decided that the Phase II sample should consist of approximately 100 schools in each of the first two categories, and that the schools first to return Phase I questionnaires would be invited to participate. Since the number of non-compensatory reading schools returning Phase I questionnaires was quite small, all schools in this category returning questionnaires by the Spring 1972 cutoff date were invited to participate in Phase II. The implementation of this procedure resulted in invitations to 129 Title I-compensatory reading schools, 115 non-Title I compensatory reading schools, and 45 non-compensatory reading schools. Of these, 94, 95, and 33 schools, respectively, participated and produced usable data in Phase II. The following Non-Respondent Study was performed to assess effects attributable to the omission of those schools which were invited, but did not participate in Phase II.

Non-respondent study. Analyses were conducted to estimate the total reading achievement means which would have resulted had achievement data been obtained from the non-respondents. These analyses

were conducted separately by grade within each of the three aforementioned school strata. The analytic procedures are described in detail in Rubin, Donald B. "A Method for Formalizing Subjective Notions About the Effect of Non-Respondents in Sample Surveys," Research Bulletin 75-21, ETS, June 1975. A similar analysis using the same procedures is described in Rubin, Trismen, Wilder, and Yates, "Phase I Report: A Descriptive and Analytic Study of Compensatory Reading Programs." Project Report 73-28, ETS, August 1973.

Put in simple terms, the procedure involves developing a prediction equation using the complete data of the respondent group, and applying this equation to the non-respondent group (for which the independent variable data are available, but which is missing the dependent variable) to estimate the dependent variable mean which would have been obtained had complete data been available for both groups. In the present case, the dependent variable of interest is the total reading achievement score. The independent variables used to predict it are:

1. school SES index (see the Addendum to the Phase I Report, pp. 8-9)
2. school enrollment
3. school urbanicity index
4. school proportions of students in various ethnic groups
5. school average score on each of three latent teacher variables (see the Addendum to the Phase I Report, pp. 1-4)

Analyses were performed, separately by grade, for schools in each of the three funding category strata: (1) Title I, (2) non-Title I, and (3) non-compensatory reading. Estimates were obtained of the percent bias and of the 95% confidence interval about the estimated total group achievement mean under a variety of assumptions (see footnotes 1 and 2 to Table 4.) Table 4 shows these results.

Estimates of the total group reading achievement means are, of course, more precise for relatively high values of the multiple correlation between predictors and criterion. Reference to Table 4 reveals that, within each of the three school strata, the multiple

Table 4
Analyses of Non-Response in the Phase II Sample

<u>Title I Schools</u>			Subjective Coefficients of Variation		X Bias	95% Confidence Interval Around Est. Total Group Reading Ach. Mean	
Grade	Respondent Reading Achievement Raw Score Mean	Predictors/Criterion Multiple Corr.	θ_1	θ_2		Upper Limit	Lower Limit
			1	2			
2	101.0	.79	.10	1.0	+.63	112.4	89.5
			.25	1.0		118.8	83.1
			.50	1.0		132.4	69.6
4	100.2	.87	.10	1.0	+.40	109.5	90.9
			.25	1.0		116.7	83.7
			.50	1.0		130.8	69.7
6	111.7	.88	.10	1.0	+.35	121.6	101.8
			.25	1.0		129.8	93.6
			.50	1.0		145.6	77.8
<u>Non-Title I Schools</u>							
2	106.1	.76	.10	1.0	-.19	112.2	100.0
			.25	1.0		117.1	95.1
			.50	1.0		126.7	85.5
4	107.7	.81	.10	1.0	-.16	114.9	100.4
			.25	1.0		119.5	95.8
			.50	1.0		128.9	86.4
6	120.0	.87	.10	1.0	-.20	125.7	114.3
			.25	1.0		131.9	108.1
			.50	1.0		143.0	97.0
<u>Non-Compensatory Reading Schools</u>							
2	106.0	.80	.10	1.0	+.62	124.7	87.3
			.25	1.0		131.0	80.9
			.50	1.0		146.2	65.7
4	103.3	.79	.10	1.0	-.80	129.2	77.4
			.25	1.0		134.0	72.6
			.50	1.0		147.1	59.5
6	115.4	.96	.10	1.0	+.76	124.1	106.7
			.25	1.0		135.4	95.4
			.50	1.0		154.9	75.9

¹ θ_1 is a subjective coefficient of variation representing the degree to which the regression coefficients of the non-respondent group differ from those of the respondent group.

² θ_2 is a subjective coefficient of variation representing the degree to which the non-respondent and respondent reading achievement means would differ if their predictor variable distributions were identical. It is thus an index of the predictive importance of all unmeasured independent variables.

correlations are higher at the higher grade levels. There are relatively small differences in the multiple correlations among school strata. It should be noted that one student ethnicity category (Oriental) was omitted from the analysis because of zero variance.

The entries in the "% Bias" column of Table 4 are relatively small, especially for Non-Title I schools. They are to be interpreted in the following manner: e.g., "for Title I schools in grade 2, we estimate that the total reading achievement mean for the combined respondent/non-respondent group would have been .63% higher if the achievement data for the non-respondent group had been included."

Since θ_1 and θ_2 (see footnotes 1 and 2 to Table 4) are subjective coefficients, results for a range of possibilities for θ_1 have been computed. Because the values chosen for θ_2 made relatively little difference in the size of the obtained 95% confidence intervals, a relatively large value (1.00 or 100%) was chosen as a conservative approach to the analysis.

Examination of the respondent means of each school group relative to the 95% confidence intervals for the corresponding grade in each of the other two school groups sheds some light on whether differences among the three funding category strata could be importantly affected by non-response. For example, it can be seen from Table 4 that, for the .10 value of θ_1 (the value shown which produces the smallest confidence interval and therefore the value for which a given respondent mean is most likely to fall outside that confidence interval), the Title I grade 2 respondent mean of 101.0 still falls within the 95% confidence interval for grade 2 in the Non-Title I and Non-Compensatory reading strata. Moreover, with but few exceptions (the Title I grade 4 and grade 6 means fall outside their Non-Title I confidence intervals), this is true in turn for most of the respondent means shown in Table 4. This result suggests that Title I, Non-Title I, and Non-Compensatory reading schools may not be distinguishably different in terms of reading achievement if the

possible effects of bias (resulting from the refusal of certain schools to participate in Phase II of the study) are taken into account. Differences within these three strata tend to be unimportant, as shown by the relatively small size of the % bias indices.

Phase I/Phase II relationships. Since time pressure made it impossible to select schools from three strata randomly, it was important to determine what if any bias was introduced by selecting schools which first returned questionnaires. Therefore, comparisons of the Phase I and Phase II samples were made, eliminating from the Phase I sample all schools appearing in the Phase II sample. These comparisons were made in terms of the following variables:

1. degree of urbanicity
2. geographical location
3. existence of Title I funding
4. socioeconomic status
5. existence of a Title I funded compensatory reading program
6. teacher experience
7. teachers' satisfaction with their administration
8. teachers' attitudes toward the academic capabilities of disadvantaged students
9. reading program characteristics
 - a. emphasis on basic reading activities
 - b. use of audiovisual equipment and material
 - c. emphasis on supplementary reading activities
 - d. instructional flexibility
 - e. compensatory reading offered during time released from other school subjects

Of these variables, the only differences between the Phase I and Phase II samples were with respect to degree of urbanicity ($.005 \geq p > .001$), existence of a Title I-funded compensatory reading program ($.025 \geq p > .010$), and reading program with emphasis on supplementary reading activities ($p = .013$). The difference in urbanicity was due chiefly to a somewhat greater proportion in Phase I of schools located in large (population greater than 500,000) cities (13.8% of the Phase

I sample vs. 2.0% of the Phase II sample). A Title I-funded reading program existed in 73% of the Phase I schools which answered the questionnaire item on funding, but only 58% of the Phase II schools responding to the same item. Although it is impossible to determine the nature of non-response to this item, it is likely that such non-response has had some (unknown) effect on these results. Finally, the reading programs in Phase II schools can be characterized as having a somewhat greater emphasis on supplementary reading activities (e.g., time spent in creative writing or independent reading) than did the programs in the Phase I schools.

The relationships between Phase I and Phase II schools described above were in terms of Phase I data, and compared two separate, non-overlapping samples. Another approach to understanding these relationships is to compare the set of schools which were common to both phases of the project in terms of their Phase I and Phase II data. These comparisons were made in terms of the following variables:

1. socioeconomic status
2. existence of a Title I-funded compensatory reading program
3. teacher experience
4. teachers' satisfaction with their administration
5. teachers' attitudes toward the academic capabilities of disadvantaged students
6. reading program characteristics
 - a. emphasis on basic reading activities
 - b. use of audiovisual equipment and material
 - c. emphasis on supplementary reading activities
 - d. instructional flexibility
 - e. compensatory reading offered during time released from other school subjects.

Of these variables, the only difference between Phases I and II was with respect to the existence of a Title I-funded compensatory reading program ($.025 \geq p > .010$). Such reading programs existed in 58% of the Phase I schools which answered the questionnaire item on

funding, and 68% of the schools in Phase II. Although it is impossible to determine the nature of non-response to this item, it is likely that such non-response has had some (unknown) effect on these results. Unlike the corresponding comparison previously reported, which was related to possible bias in the Phase II sample, this comparison reflects actual changes in practice by the same schools from the 1971-72 to the 1972-73 school years.

Student Questionnaire Response Rates

For each student in the Phase II sample, a short questionnaire containing certain background information was to be completed. Although the information was about individual students, the questionnaire respondent was the project local coordinator, who was to obtain the requested information by consulting either school records or knowledgeable school personnel. The percentages of questionnaire returns were analyzed by school cluster (see Chapter I of this report for a description of these clusters), by compensatory reading/non-compensatory reading student category (see the "Preexisting difference in reading achievement and attitude toward reading" section of this report for a description of these categories), by innovative reading program sample/remainder of Phase II sample, by full/partial/no Title I funding, and by Title I/non-Title I funding. Questionnaire return percentages in these categories are displayed in Tables 5-9. In each case, the "N Expected" is that number of the 55,356 total cases (see p. 46) which could be assigned to the respective categories using available information.

Chi square tests of significance were performed on the data in the following five tables and, with the exception of the Innovative Sample/Remainder of Phase II Sample comparison, all differences were significant at or below the 5% level. However, due to the very large numbers of cases, it is possible to obtain statistical significance even when differences among questionnaire response rates are trivial. Examination of the actual response rates shown in Tables 4-8 shows them to be uniformly high, but with negligible differences among categories.

Table 5

Student Questionnaire Returns By School Cluster

<u>Cluster</u>	<u>N</u>	<u>N</u>	<u>%</u>
	<u>Returned</u>	<u>Expected</u>	<u>Returned</u>
1A	6410	6548	98
1B	5973	6115	98
2A	8566	9082	94
2B	2690	2768	97
3A	4328	4433	98
3B	2286	2325	98
4A	2695	2795	96
4B	452	470	96
5A	3590	3692	97
5B	1194	1226	97
11	5914	6064	98

Table 6

Student Questionnaire Returns By CR/NCR Category

<u>Category</u>	<u>N</u>	<u>N</u>	<u>%</u>
	<u>Returned</u>	<u>Expected</u>	<u>Returned</u>
CR students in separate classes	8174	8377	98
NCR students in separate classes, CR schools	7714	7864	98
CR students in combined classes	10,098	10,379	97
NCR students in combined classes, CR schools	18,210	18,926	97
NCR students in NCR schools	4748	4982	95

Table 7

Student Questionnaire Returns By Innovative Sample/Remainder
Of Phase II Sample Category

<u>Category</u>	<u>N</u>	<u>N</u>	<u>%</u>
	<u>Returned</u>	<u>Expected</u>	<u>Returned</u>
Innovative sample	7,700	7,962	97
Remainder of Phase I sample	38,684	39,882	97

Table 8

Student Questionnaire Returns By Type Of Title I Funding Category

<u>Category</u>	<u>N</u> <u>Returned</u>	<u>N</u> <u>Expected</u>	<u>%</u> <u>Returned</u>
Fully funded by Title I	18,556	19,012	98
Partially funded by Title I	4074	4328	94
Not funded by Title I	7585	7690	99
Information not provided by respondent	16,169	16,814	96

Note: Funding categories are defined by information obtained from responses to the School Principal Questionnaire. A large number of respondents did not supply the information necessary to place their schools in a funding category; hence the large N in the "Information not provided by respondent" row of Table 8.

Table 9

Student Questionnaire Returns By Title I/Non-Title I
Funding Category

<u>Category</u>	<u>N</u> <u>Returned</u>	<u>N</u> <u>Expected</u>	<u>%</u> <u>Returned</u>
Title I funded	21,560	17,695	97
Non-Title I funded	17,124	22,187	97
Information not provided by respondent	7,700	7,962	97

Note: Funding categories are defined by information obtained from the School Universe Tape.

In addition to the analysis of Table 6, an analysis was performed including one group of schools whose cluster classification was ambiguous. This analysis showed that this group had a response rate (86%) notably lower than the rest. The schools of this group were characterized by certain logical discrepancies between program characteristics

questionnaire returns and the presence or absence of CR and NCR students. It seems reasonable that the student questionnaire return rate be lower for schools which seemed in general to have difficulty in producing an orderly data base.

Student Attrition

In a study of this scope and complexity, the elimination of some cases from the analysis for any of a host of reasons is inevitable. Indeed, with the existing large number of variables potentially available for each student in the sample, the definition of an adequate data set for an individual is an extremely complex task, admitting of several possible specifications depending upon the answers to the question "adequate for what?" The following description should, however, give some idea of data attrition in Phase II.

During the 1972-73 school year, participating schools kept records of the reading class attendance of all second, fourth, and sixth grade students. The data from these attendance records were used to create a file which included data for 57,670 uniquely identified individual students. This number was reduced to 57,439 by eliminating those cases which did not have matching score data and attendance data. Of these 57,439 cases, 55,356 had at least one reading achievement score. After excluding students from schools whose CR/NCR status was ambiguous because of conflicting information from the principal and from questionnaires, the number was further reduced to 52,826. Of these 52,826 cases, 42,879 had a complete set of reading achievement scores. If those students who have complete reading achievement scores but who are from schools with ambiguous CR/NCR status are included, the number of usable cases rises to 44,741.

The number of usable classes in the Phase II data varies according to the particular analysis. However, in order to give the reader some idea of the number of classrooms represented, the following counts are given for classrooms in CR and NCR schools which produced usable pretest and posttest achievement data:

grade 2, CR schools---	1,207
grade 2, NCR schools--	77
grade 4, CR schools---	1,167
grade 4, NCR schools--	70
grade 6, CR schools---	964
grade 6, NCR schools--	55

Analyses were performed to determine the effects of this attrition upon the sample. Comparisons were made, in terms of the Total Achievement Test battery score (see Table 12), of the pretest only group vs. the pretest and posttest group, and the posttest only vs. the pretest and posttest group. These comparisons were performed for several categories of ethnicity, compensatory/non-compensatory grouping, student economic disadvantage, and compensatory reading program funding source. Table 10 shows these data.

Examination of Table 10 shows the effects of attrition on student reading achievement to be unambiguous and consistent. In almost every situation where significant differences are found between groups having incomplete and complete data, the group having incomplete data has a lower reading achievement mean (the two exceptions are the second grade, Spanish surnamed, posttest only group, and the fourth grade, unknown economic status, pretest only group). This finding holds regardless of grade level, ethnicity, student grouping, economic status, or funding category. It seems clear that incomplete data results in underrepresentation of lower scoring students in the study sample.

Table 10 also shows the effects of attrition in terms of student ethnicity and SES. Both types of incomplete data groups (pretest only and posttest only) at each grade level are characterized by lower proportions of Caucasian or white students and higher proportions of Negro or black and Spanish surnamed students. Both types of incomplete data groups are also characterized by higher proportions of low SES students. These results are completely consistent with the achievement comparisons previously reported.

Grade 2, cont.

Table 10, Continued

Funding Category	Pretest Only Group			Pretest and Posttest Group			Pretest Only vs. Pretest and Posttest			Posttest Only Group			Pretest and Posttest Group			Posttest Only vs. Pretest and Posttest			
	N	Z	Ach. Pretest Mean	N	Z	Ach. Pretest Mean	t	Var. Explained	N	Z	Ach. Posttest Mean	N	Z	Ach. Posttest Mean	t	Var. Explained	N	Z	Ach. Posttest Mean
Total Title I	896	43.7	59.0	5120	36.7	69.9	-11.2 ³	.02	670	42.3	88.5	5120	36.7	97.8	-9.3 ³	.01	5120	36.7	97.8
Partial Title I	115	5.6	66.9	1115	8.0	79.2	-4.6 ³	.02	123	7.8	93.5	1115	8.0	105.1	-5.7 ³	.03	1115	8.0	105.1
Non-Title I	231	11.3	71.7	2066	14.8	78.4	-3.6 ³	.01	150	9.5	102.2	2066	14.8	104.2	NS	<.01	2066	14.8	104.2
Unknown	809	39.4	71.6	5640	40.5	78.5	-6.8 ³	.01	642	40.5	97.1	5640	40.5	103.6	-7.1 ³	.01	5640	40.5	103.6

Note: See the Phase I Report, p. 49, for a more complete description of school funding categories. The units of analysis in the above table are students.

Grade 4

Student Ethnicity

	1001	67.0	83.6	11163	78.3	92.5	-9.7 ³	.01	704	73.0	101.8	11163	78.3	107.3	-5.8 ³	<.01
Caucasian or white																
Negro or black	318	21.3	52.2	2181	15.3	61.8	-6.9 ³	.02	171	17.8	69.2	2181	15.3	77.7	-4.1 ³	<.01
Spanish surname	156	10.4	55.8	702	4.9	61.3	-2.5 ²	.01	71	7.4	71.0	702	4.9	78.3	-2.2 ¹	.01
Oriental	3	0.2	119.0	65	0.5	95.6	NS	.03	5	0.5	109.2	65	0.5	111.0	NS	<.01
American Indian	12	0.8	48.0	105	0.7	66.1	-2.4 ¹	.05	9	0.9	81.2	105	0.7	79.1	NS	<.01
Other	5	0.3	97.6	39	0.3	77.9	NS	.04	5	0.5	81.6	39	0.3	99.1	NS	.04

Student Grouping

CR separate	365	18.3	60.3	2362	16.1	66.5	-4.1 ³	.01	235	17.4	75.9	2362	16.1	82.9	-3.7 ³	.01
NCR separate	157	7.9	90.0	2069	14.1	98.7	-3.9 ³	.01	120	8.9	106.7	2069	14.1	113.3	-3.2 ²	<.01
CR combined	353	17.7	59.8	2769	18.8	66.7	-5.1 ³	.01	243	18.0	81.0	2769	18.8	84.2	NS	<.01
NCR combined	560	28.1	92.5	5883	40.0	98.0	-4.8 ³	.01	535	39.5	104.0	5883	40.0	111.7	-7.4 ³	.01
CR schools	169	8.5	86.1	1410	9.6	91.0	-2.1 ¹	.01	146	10.8	101.1	1410	9.6	105.9	-2.1 ¹	<.01

Student Economic Status

Student Economic Status	Pretest Only Group			Pretest and Posttest Group			Pretest Only vs. Posttest			Posttest Only Group			Pretest and Posttest Group			Posttest Only vs. Pretest and Posttest			
	N	Z	Ach. Pretest Mean	N	Z	Ach. Pretest Mean	t	Prop. Var. Explained	N	Z	Ach. Posttest Mean	N	Z	Ach. Posttest Mean	t	Prop. Var. Explained	N	Z	Ach. Posttest Mean
Low	763	51.0	65.7	6617	46.1	77.9	-10.7 ³	.02	519	53.3	85.3	6617	46.1	93.4	-6.1 ³	.01	6617	46.1	93.4
High	592	39.6	87.5	7706	53.7	93.3	-4.9 ³	<.01	451	46.4	103.3	7706	53.7	108.0	-4.0 ³	<.01	7706	53.7	108.0
Unknown	140	9.4	68.8	41	0.3	57.1	2.5 ²	.03	3	0.3	60.0	41	0.3	77.6	NS	.03	41	0.3	77.6

Table 10, Continued

Grade 4, cont.

Funding Category	Pretest Only Group		Pretest and Posttest Group		Pretest Only vs. Pretest and Posttest		Posttest Only Group		Pretest and Posttest Group		Posttest Only vs. Pretest and Posttest	
	N	X	N	X	t	Prop. Var. Explained	N	X	N	X	t	Prop. Var. Explained
Total Title I	909	45.6	5326	36.2	-11.3 ³	.02	502	37.1	5326	36.2	-6.9 ³	.01
Partial Title I	146	7.3	1338	9.1	-4.3 ³	.01	115	8.5	1338	9.1	-4.6 ³	.01
Non-Title I	171	8.6	2172	14.8	-3.7 ³	.01	160	11.8	2172	14.8	NS	<.01
Unknown	676	38.5	5871	39.9	-6.7 ³	.01	577	42.6	5871	39.9	-4.5 ³	<.01

Grade 6												
Student Ethnicity	Pretest Only Group		Pretest and Posttest Group		Pretest Only vs. Pretest and Posttest		Posttest Only Group		Pretest and Posttest Group		Posttest Only vs. Pretest and Posttest	
	N	X	N	X	t	Prop. Var. Explained	N	X	N	X	t	Prop. Var. Explained
Caucasian or white	881	70.0	10955	79.1	-10.1 ³	.01	589	71.1	10955	79.1	-5.9 ³	<.01
Negro or black	228	18.0	1939	14.0	-4.3 ³	.01	141	17.0	1939	14.0	NS	<.01
Spanish surnamed	132	10.4	748	5.4	-3.5 ³	.01	82	9.9	748	5.4	-2.4 ¹	.01
Oriental	4	0.3	52	0.4	NS	.01	2	0.2	52	0.4	NS	.04
American Indian	9	0.7	98	0.7	-2.9 ²	.07	10	1.2	98	0.7	NS	<.01
Other	12	1.0	65	0.5	NS	.01	4	0.5	65	0.5	-3.4 ³	.15

Student Grouping	Pretest Only Group		Pretest and Posttest Group		Pretest Only vs. Pretest and Posttest		Posttest Only Group		Pretest and Posttest Group		Posttest Only vs. Pretest and Posttest	
	N	X	N	X	t	Prop. Var. Explained	N	X	N	X	t	Prop. Var. Explained
CR separate	253	15.7	2008	14.1	-0.0 ³	.02	196	17.3	2008	14.1	-3.3 ³	<.01
MCR separate	262	16.3	3034	21.3	-3.5 ³	<.01	177	15.6	3034	21.3	-2.6 ²	<.01
CR combined	236	14.6	2567	18.0	-2.9 ²	<.01	168	14.8	2567	18.0	-3.8 ³	.01
MCR combined	424	26.3	4852	34.1	-7.3 ³	.01	329	29.0	4852	34.1	-2.7 ²	<.01
MCR schools	132	8.2	1229	8.6	-3.1 ²	.01	137	12.1	1229	8.6	-2.4 ¹	<.01

Student Economic Status	Pretest Only Group		Pretest and Posttest Group		Pretest Only vs. Pretest and Posttest		Posttest Only Group		Pretest and Posttest Group		Posttest Only vs. Pretest and Posttest	
	N	X	N	X	t	Prop. Var. Explained	N	X	N	X	t	Prop. Var. Explained
Low	604	46.9	6169	44.4	-10.0 ³	.01	438	52.9	6169	44.4	-5.7 ³	<.01
High	563	43.6	7681	55.3	-6.9 ³	.01	388	46.9	7681	55.3	-4.1 ³	<.01
Unknown	123	9.5	42	0.3	NS	.02	2	0.2	42	0.3	NS	.01

Table 10, Continued

Grade 6, cont.

Funding Category	Pretest Only Group			Pretest and Posttest Group			Pretest Only vs. Pretest and Posttest			Posttest Only Group			Pretest and Posttest Group			Posttest Only vs. Pretest and Posttest		
	N	X	Pretest Mean	N	X	Pretest Mean	t	Var. Explained		N	X	Posttest Mean	N	X	Posttest Mean	t	Var. Explained	
Total Title I	681	42.3	88.4	4727	33.2	99.9	-8.73	.01		378	33.3	101.7	4727	33.2	107.6	-3.73	<.01	
Partial Title I	109	6.8	91.8	1166	8.2	106.9	-4.93	.02		85	7.5	100.0	1166	8.2	114.7	-4.63	.02	
Non-Title I	137	8.5	105.9	2440	17.2	110.8	NS	<.01		152	13.4	107.3	2440	17.2	117.6	-4.43	.01	
Unknown	685	42.5	100.4	5897	41.4	109.3	-7.53	.01		519	45.8	110.2	5897	41.4	116.1	-4.73	<.01	

1 .05 level of significance

2 .01 level of significance

3 .001 level of significance

Examination of the percentages of students in the various descriptive categories shows that the "pretest only" group has approximately the same student makeup with respect to ethnicity, grouping, economic status, and funding source as does the "posttest only" group. One possible exception to this generality is the "NCR combined" group, which seems to have relatively greater representation in the "posttest only" group in grades 2 and 4.

Comparisons of "pretest only" and "posttest only" percentages with their corresponding category percentages for "pretest and posttest" gives some indications of the characteristics of students who change schools during the course of a school year. At all grade levels, Black and Spanish surnamed students are more heavily represented in the "moving" groups than in the "staying" group, while the reverse is true for Caucasian students. A similar effect is true with respect to economic status, with the poorer students seeming to be more likely to move. There also seems to be a tendency for students in "Total Title I" schools to be more likely to move than students in either "Partial Title I" or "Non-Title I" schools.

In general, the picture seems quite consistent with expectation, with the students dropping out of the sample tending to be lower achievers, of lower economic status, and members of certain ethnic minorities.

Test Characteristics

Reading achievement measures. At each of grade levels 2, 4, and 6, a pair of reading achievement measures was selected. The appropriate levels of the Word Knowledge and Reading subtests of the Metropolitan Achievement Test were selected at the request of the U.S. Office of Education. A second measure at each level was selected with the objective of maximizing the grade level range for which the pair of measures was appropriate. Since the tests were administered to all students in grades 2, 4, and 6, in both compensatory and non-compensatory reading schools, it was considered especially important that the pair of measures at each grade level cover a wide range of difficulty. Table 10 shows these ranges. Alternate forms of each of these measures were administered in Fall 1972 and Spring 1973. For each administration, at

each grade level, random samples in each of three strata (compensatory reading students, non-compensatory reading students, and combined CR/NCR reading students) were selected for analysis of test characteristics.

Descriptive statistics for the following scores were obtained:

Metropolitan Primary I
 Word Knowledge
 Reading (Sentences + Stories)
 Sentences
 Stories
 Total (Word Knowledge + Reading)

Cooperative Primary 12
 Total

Metropolitan Elementary
 Word Knowledge
 Reading
 Total (Word Knowledge + Reading)

Cooperative Primary 23
 Total

STEP II, Level 4
 Total

Table 11

Reading Achievement Battery: Grade Level
 Appropriateness Range

<u>Test</u>	<u>Grade Admin- istered</u>	<u>Grade Level Appropriateness Range</u>	<u>Grade Level Appropriateness Range for Pair</u>
Metropolitan Primary I (Word Knowledge & Reading)	2	1.5 - 2.4	} 1.5 - 2.4
Cooperative Primary 12	2	Spring 1 - Fall 2	
Metropolitan Elementary (Word Knowledge & Reading)	4	3.5 - 4.9	} Spring 2 - 4.9
Cooperative Primary 23	4	Spring 2 - Spring 3	
Metropolitan Elementary (Word Knowledge & Reading)	6	3.5 - 4.9	} 3.5 - 6.0
STEP II, Level 4	6	4.0 - 6.0	

In addition, at each grade level, a total score was obtained for the entire battery. Table 12 shows the descriptive statistics obtained.

Table 12
Reading Achievement Battery Descriptive Statistics

Grade 2 - Fall 1972 Administration

Test or Subtest	N		Mean		S.D.		Coefficient Alpha		S.E. Measurement	
	CR	NCR	CR	NCR	CR	NCR	CR	NCR	CR	NCR
	Total Group*	N of Items	Total Group*	Total Group*	Total Group*	Total Group*	Total Group*	Total Group*	Total Group*	Total Group*
MAT Sentences	448	469	446	446	446	446	446	446	446	446
MAT Stories	448	469	446	446	446	446	446	446	446	446
MAT Reading (Sentences + Stories)	448	469	446	446	446	446	446	446	446	446
MAT Word Knowledge	448	469	446	446	446	446	446	446	446	446
MAT Total (Reading + Word Knowledge)	448	469	446	446	446	446	446	446	446	446
Cooperative Reading	448	469	446	446	446	446	446	446	446	446
Battery Total	448	469	446	446	446	446	446	446	446	446

Grade 2 - Spring 1973 Administration

MAT Sentences	443	454	443	443	443	443	443	443	443	443
MAT Stories	433	454	443	443	443	443	443	443	443	443
MAT Reading	433	454	443	443	443	443	443	443	443	443
MAT Word Knowledge	433	454	443	443	443	443	443	443	443	443
MAT Total	433	454	443	443	443	443	443	443	443	443
Cooperative Reading	433	454	443	443	443	443	443	443	443	443
Battery Total	433	454	443	443	443	443	443	443	443	443

*CR plus NCR

Table 12, Continued

Grade 4 - Fall 1972 Administration															
Test or Subtest	N		Total Group*	N of Items	Mean			S.D.			Coefficient Alpha		S.E. Measurement		
	CR	NCR			CR	NCR	Total Group*	CR	NCR	Total Group*	CR	NCR	CR	NCR	
MAT Reading	460	458	465	45	17.3	27.2	22.5	8.1	9.1	10.0	.87	.91	2.9	2.8	2.8
MAT Word Knowledge	460	458	465	50	22.1	35.0	28.7	11.1	10.5	12.7	.93	.94	2.9	2.6	2.8
MAT Total (Reading + Word Knowledge)	460	458	465	95	39.3	62.2	51.2	18.4	18.8	22.0	.95	.96	4.2	3.8	4.0
Cooperative Reading	460	458	465	50	27.5	36.9	32.2	8.6	7.7	10.1	.87	.88	3.1	2.7	2.9
Battery Total	460	458	465	145	66.9	99.2	83.4	25.8	25.8	31.4	.96	.97	5.2	4.7	4.9

Grade 4 - Spring 1973 Administration															
MAT Reading	433	462	449	45	22.6	31.5	27.6	8.5	8.8	10.0	.88	.93	2.9	2.6	2.7
MAT Word Knowledge	433	462	449	50	28.9	39.0	34.3	11.1	9.3	11.8	.93	.93	2.9	2.4	2.7
MAT Total	433	462	449	95	51.5	70.4	62.0	18.9	17.3	21.1	.95	.96	4.1	3.6	3.8
Cooperative Reading	433	462	449	50	34.4	41.0	37.6	8.2	6.4	8.7	.88	.87	2.8	2.3	2.6
Battery Total	433	462	449	145	85.9	111.4	99.6	26.3	23.1	29.1	.96	.97	5.0	4.3	4.6

Table 12, Continued

Grade 6 - Fall 1972 Administration

Grade 6 - Fall 1972 Administration																
Test or Subtest	N			N of Items	Mean			S.D.			Coefficient Alpha			S.E. Measurement		
	CR	NCR	Total Group*		CR	NCR	Total Group*	CR	NCR	Total Group*	CR	NCR	Total Group*	CR	NCR	Total Group*
MAT Reading	460	466	455	45	25.3	33.2	30.5	9.3	9.0	10.1	.91	.92	.93	2.8	2.5	2.6
MAT Word Knowledge	460	466	455	50	33.4	41.9	38.6	11.3	8.3	10.9	.94	.93	.95	2.7	2.2	2.4
MAT Total	460	466	455	95	58.7	75.2	69.1	19.7	16.5	20.2	.96	.96	.97	4.0	3.3	3.5
STEP II Reading	460	466	455	60	28.4	39.4	35.3	10.7	11.7	12.5	.91	.93	.94	3.3	3.1	3.2
Battery Total	460	466	455	155	87.1	114.5	104.4	29.4	27.1	31.8	.97	.97	.98	5.2	4.5	4.8

Grade 6 - Spring 1973 Administration

MAT Reading	458	461	451	45	28.5	35.8	32.9	9.6	7.9	9.1	.92	.91	.92	2.7	2.3	2.5
MAT Word Knowledge	458	461	451	50	36.6	43.8	41.2	10.6	7.3	9.1	.94	.93	.94	2.6	2.0	2.2
MAT Total	458	461	451	95	65.1	79.5	74.2	19.1	14.4	17.5	.96	.95	.96	3.8	3.1	3.4
STEP II Reading	458	461	451	60	32.1	42.6	38.3	10.9	10.8	12.1	.91	.93	.93	3.2	3.0	3.1
Battery Total	458	461	451	155	97.1	122.1	112.4	29.0	24.4	28.7	.97	.97	.97	5.0	4.3	4.6

Inspection of Table 12 reveals the tests and subtests of the reading achievement battery to be, in general, highly reliable. Coefficient alphas for MAT Reading, MAT Word Knowledge, Cooperative Reading, and the various total scores derived from them are uniformly in the high .80's or .90's. Even the subparts of the MAT Reading (Sentences and Stories), which are composed of only 13 and 29 items, respectively, have reliabilities ranging from .77 (Sentences, grade 2, Fall administration, CR students) to .96 (Stories, grade 2, Fall administration, CR students). Examination of the various group means reveals consistent and not unexpected relationships. NCR means exceed CR means for corresponding administrations, and Spring administration means exceed Fall administration means for corresponding student groups. The former relationship is evidence that the classification of students as compensatory or non-compensatory was in general carried out validly by local school personnel. Variability of test scores was in general smaller within NCR groups than within CR groups, a result also consistent with the concept of NCR students as a select group. A tendency is also apparent for the variability within NCR groups to decrease from the Fall to Spring administrations, a finding which suggests the presence of some instructional treatment affecting the group.

As might be expected in a battery of highly reliable measures, all measuring related aspects of reading achievement, test and subtest correlations were substantial. Table 13 shows these intercorrelations (Fall administration above the diagonal, Spring administration below), based on the entire Phase II sample, as well as those for the measures of attitude toward reading. The unit of analysis in Table 13 is the individual student. Of particular interest are the uniformly negative correlations of achievement and attitude measures in grades 4 and 6. This result is consistent with the finding described in a later section of this report (see pp. 85) that, in the second grade, NCR groups exceed CR groups with respect to both achievement and attitude (that is, achievement and attitude are positively correlated). However, by grade 4 and continuing in grade 6, CR students (i.e., low achievers) are relatively more positive in their attitudes toward reading than are their NCR peers (that is, achievement and attitude are negatively correlated).

Table 13
Reading Achievement and Attitude Test Intercorrelations

	CR Group						NCR Group						Combined Group					
	MAT Sentences	MAT Stories	MAT Reading	MAT Work Knowledge	MAT Total	Attitude Toward Rdg.	MAT Sentences	MAT Stories	MAT Reading	MAT Work Knowledge	MAT Total	Cooperative Reading	Attitude Toward Rdg.	MAT Sentences	MAT Stories	MAT Reading	MAT Work Knowledge	MAT Total
MAT Sentences	-	.66	.75	.66	.62	.16	-	.78	.75	.74	.73	.17	-	.78	.76	.74	.74	.20
MAT Stories	.75	-	.60	.60	.72	.15	.74	-	.73	.84	.84	.16	.76	.76	-	.84	.84	.19
MAT Reading	-	-	.68	.68	.74	.17	-	-	.77	.85	.85	.17	-	-	-	.85	.85	.20
MAT Work Knowledge	.77	.75	.80	-	.61	.22	.77	.75	.80	.72	.72	.18	.80	.80	.78	.83	-	.72
MAT Total	-	-	-	-	.74	.21	-	-	-	.84	.84	.18	.72	-	-	-	-	.84
Cooperative Reading	.70	.81	.82	.74	.83	.13	.67	.81	.81	.72	.82	.14	.72	.72	.84	.84	.75	.85
Attitude Toward Rdg.	.13	.13	.14	.13	.14	.11	.11	.11	.12	.10	.12	.10	.14	.12	.12	.13	.12	.13
	N = 6,350						N = 9,292						N = 16,128					

Note 1: Correlations based on Fall administration data appear above the diagonal, those based on Spring administration data appear below.

Note 2: Each correlation reported was based on the maximum available number of cases for that pair of variables. The reported N's are the maximums for the matrix, and thus the Combined Group N is not the sum of N's for the CR and NCR groups.

Table 13, Continued

	CR Group					NCR Group					Combined Group				
	MAT Reading	MAT Word Knowledge	MAT Total	Coop. Reading	Att. Toward Rdg.	MAT Reading	MAT Word Knowledge	MAT Total	Coop. Reading	Att. Toward Rdg.	MAT Reading	MAT Word Knowledge	MAT Total	Coop. Reading	Att. Toward Rdg.
<u>Grade 4</u>															
MAT Reading		.79	-	.76	-.46		.84	-	.82	-.34		.86	-	.84	-.46
MAT Word Knowledge	.83		-	.80	-.44	.84		-	.84	-.35	.87		-	.87	-.45
MAT Total	-	-		.83	-.47	-	-		.87	-.36	-	-		.89	-.47
Cooperative Reading	.80	.83	.86		-.44	.82	.83	.86		-.32	.84	.87	.88		-.44
Attitude Toward Rdg.	-.47	-.44	-.47	-.43		-.39	-.38	-.40	-.36		-.48	-.46	-.49	-.44	
	N = 5,888					N = 10,298					N = 16,798				
<u>Grade 6</u>															
MAT Reading		.82	-	.83	-.37		.80	-	.83	-.44		.84	-	.86	-.46
MAT Word Knowledge	.81		-	.82	-.36	.82		-	.78	-.41	.83		-	.82	-.43
MAT Total	-	-		.86	-.38	-	-		.85	-.45	-	-		.88	-.47
STEP Reading	.82	.80	.85		-.41	.82	.77	.84		-.52	.85	.81	.87		-.53
Attitude Toward Rdg.	-.37	-.36	-.38	-.43		-.43	-.41	-.44	-.51		-.45	-.42	-.46	-.52	
	N = 5,117					N = 9,981					N = 15,953				

There are some research studies showing low SES children to have higher self concepts than their high SES peers.¹ To the extent that the Attitude Toward Reading instrument contains elements of attitude toward self, this relationship may offer a partial explanation of the negative attitude/achievement correlations in grades 4 and 6.

Attitude toward reading measures. At each of grade level 2, 4, and 6, a measure of student attitude toward reading, developed specially for this study, was administered. Two measures were developed, one appropriate for grade 2, and the other for grades 4 and 6. Each measure was administered at its appropriate grade level in Fall 1972 and again in Spring 1973, as a part of the battery which included the reading achievement measures previously described.

Random samples of 883 and 898 cases from grades 2 and 6 respectively, were drawn for purposes of test analysis. These samples were selected such that they contained approximately the proportions of compensatory and non-compensatory students existing in the entire student sample of this study. Separately by grades 2 and 6, analyses were performed which reduced each instrument to that subset of items which met certain standards of internal consistency.

The two instruments used to measure attitude toward reading were constructed with the object of producing one-dimensional measure of this trait. Consequently, the item analysis model selected, the Logistic Latent Trait Model (Samejima 1969),² includes as one of its assumptions a one-dimensional underlying trait. Deviations from the model can be examined by means of a χ^2 goodness-of-fit statistic (Kolakowski & Bock 1972).³

¹ see, for example: Trowbridge, N.T. "Self concept and socio-economic class." Psychology in the Schools, 1970.

² Samejima, F. Estimation of latent ability using a response pattern of graded scores. Psychometrika, Monograph No. 17, Vol. 34, No. 4, Part 2, December 1969.

³ Kolakowski, Donald and Bock, R.D. A Fortran IV Program for Maximum Likelihood Item Analysis and Test Scoring: Normal Ogive Model. Statistical Laboratory Research Memorandum No. 13. Department of Education, University of Chicago, 1972.

Initial analysis of the fourth/sixth grade instrument using all four categories revealed significant lack of fit ($p < .00001$); the second grade instrument failed to converge adequately. Examination of the format of the items (See Appendix B) clearly reveals the binary nature of the categories, positive vs. negative. The responses to the items were consequently collapsed to two categories. With the fourth/sixth grade instrument, however, the collapsing of categories still failed to produce an adequate fit ($p < .00129$); with the second grade instrument adequate convergence was still not attained.

At this point in the item analysis the decision was made to obtain a homogeneous subset of items via the Rasch Model (Rasch 1960, 1966; Wright 1967) as this would produce the purest measure of the one trait for which information was being sought.

The items were calibrated under the Rasch Model using a maximum likelihood criterion (Wright & Panchapakesan 1969), and a χ^2 statistic calculated for each item. The items were then ordered according to this statistic, best fitting (smallest χ^2) item to worst fitting item. In this order a second χ^2 statistic can be calculated and associated with each item. This χ^2 , say χ_M^2 , is a measure of the fit of the subtest consisting of the first M items, $M = 1, \dots, N$; where N equals the number of items in the entire measuring instrument. A probability, P_C , was then selected as a cutoff criterion. A comparison of this criterion to the sequence of probabilities P_M , corresponding to the χ_M^2 indicated which items were to be removed; i.e., those items for which $P_M < P_C$ were eliminated. The remaining subset of items in the instrument so revised were then recalibrated yielding a new test of fit. The revised subsets of items for both instruments were found to produce an adequate fit ($p > .20$ for the fourth/sixth grade instrument, $p > .05$ for the second grade instrument).

Items retained in the second grade attitude instrument (see Appendix B for the complete form administered) are numbers 1, 3, 5, 8, 9, 12-18, and 21-23, a total of 15 out of the original 24 items. Coefficient alpha for this item subset is .95. Inspection of the omitted items suggests that several of them perhaps confound attitude

toward reading with attitude toward the classroom situation in which reading takes place (e.g., item 2: "Today our reading class was cancelled"; item 4: "I am listening to the teacher read a story"; or item 6: "I am reading to the whole class"). Items which were retained tend to relate more to personal attitudes toward reading in the abstract (e.g., item 1: "I am learning to read"; item 3: "Someone gave me a book for my birthday"; or item 12: "I am looking up a word in the dictionary").

Items retained in the fourth/sixth grade attitude instrument (see Appendix B for the complete form administered) are numbers 1-4, 6, 8, 10, 12, 13, 15, 19-21, 27, 29-33, 35-37, and 39-41, a total of 25 out of the original 45 items. Coefficient alpha for this item subset is .82. Inspection of the omitted items suggests that several require the respondent to make comparative judgments, either of his own reading performance compared to that of others (e.g., item 5: "I am very proud of the way I read"), or of his judgment of someone else's judgment (e.g., item 14: "My mother is disappointed in my reading"), or of his attitude toward reading as opposed to some other activity (e.g., item 16: "The thing I like best about school is reading"). As was the case with the second grade instrument, the items retained tended to be more straightforwardly concerned with reading per se.

It was decided to use the item subset determined by analyzing the sixth grade data for the fourth grade as well, for reasons of consistency and score comparability. The coefficient alpha computed from the fourth grade sample for this item subset is .79. The two item subsets described above are the basis for all attitude scores analyzed and reported in this study.

Student Outcomes: Introduction

The remaining analyses of this chapter are concerned with relating student outcomes to various school, teacher, program, and student characteristics. In the interpretation of these results especially, it should be kept in mind that this is a descriptive study, not an experimental one. By this is meant that there was no control over any of the phenomena studied on the part of the investigators. In particular, the exposure of students to their educational environments was in every case a naturally occurring event. The results of such a study are properly interpretable in terms of associations among variables, and not in terms of causation. From the earliest days of the study, the investigators have conceived its results as hypotheses to be subjected ultimately to controlled experimental research. The reader is urged to interpret the following findings in this spirit, as indicative of issues deserving further study.

Preexisting Differences Among Various Compensatory and Non-Compensatory Student Groups

This section describes the differences that existed among students at the time of the pretest in Fall 1972. Because this was not an experimental study in the sense that students were not assigned randomly to the educational treatments under consideration, it was assumed that certain characteristics would not be randomly distributed among the student population. In order to assess the gain associated with treatment, it was necessary to know where the students were when they started with respect to the dimensions along which outcome was measured, namely reading achievement and attitude toward reading. At the same time, in order to know what students were receiving which educational treatments, it was necessary to compare the demographic characteristics of students in the various treatment groups.

One of the questions addressed by this study is that of whether compensatory reading instruction is directed to the students who need it most. It will be recalled that individual students in the Phase II schools were categorized by local school personnel as receiving "compensatory" or "non-compensatory" reading instruction according to the

definition supplied by ETS. (The definition of compensatory instruction adopted for this study was any instruction provided students by virtue of the fact that they were reading below grade level.) The distribution of demographic characteristics among the groups of students so designated gives some indication of the background of students who receive compensatory instruction and the students who do not. The results of achievement and attitude pretests give some indication of the differences among groups of students along these dimensions prior to the start of the treatment. At the same time, the data help to determine how validly the classification of students was carried out.

For purposes of these comparisons, students were divided into the following groups, on the basis of the classifications provided by local school personnel:

1. Compensatory reading (CR) students in separate classes (those containing only compensatory students) in CR schools
2. Non-compensatory reading (NCR) students in separate classes (those containing only non-compensatory students) in CR schools
3. Compensatory reading (CR) students in combined classes (those containing both compensatory and non-compensatory students) in CR schools
4. Non-compensatory reading (NCR) students in combined classes in CR schools
5. Students in NCR schools

Preexisting sex differences. Chi square analyses were performed among the groups described above to determine if the sexes were proportionally distributed among the five student groups. Table 12 shows the results of these analyses.

The obtained chi square values show that the distribution of male and female students is not proportional across the five student groups, and that this result is true for each of the three grade

levels. Table 14A shows that a disproportionately¹ large number of male students appears in the "CR, combined classes" group. Apparently schools favor compensatory reading instruction for boys in the regular classroom context, rather than in specially formed compensatory education classes. Tables 14B and 14C show the results of chi square analyses of the same data, grouped differently. Inspection of these tables shows that, at each of the three grade levels, males are overrepresented in CR groups and females are overrepresented in NCR groups. In order to assess the effect of funding source upon the relationship between sex and CR/NCR grouping, additional chi square analyses were performed to test the sex x CR/NCR grouping x funding category interaction. In those situations where the interaction is significant, it indicates that the relationship between sex and CR/NCR grouping differs among (depends upon) funding category. The only significant three-way interaction was at the fourth grade level ($\chi^2 = 23.3$; 9DF; $p < .01$). The cell percentages are shown in Table 15.

Preexisting differences in socioeconomic status. The Individual Student Questionnaire contained an item regarding whether the student was eligible for the school free lunch program, an indirect measure of socioeconomic status. Chi square analyses of the responses to the free lunch item were performed to evaluate differences among the same five student groups described in the preceding section on sex differences. Table 16A shows these results. Since only approximately one percent of the responses fell in the "don't know" category, these responses were omitted from the reported analysis. However, an analysis including these responses also produced a highly significant chi square value.

¹In this and the following discussions relating to Tables 13-17, the terms "disproportional," "overrepresented," and "underrepresented" are used to describe a numerical phenomenon. They mean, simply, that a subgroup is different (in terms of the "disproportional," "overrepresented," or "underrepresented" variable) from the average of all subgroups. (In this particular case, CR combined classes are 58.1% male, as compared to 51.5% males in the total group.) The reader is cautioned against the connotation of undesirability sometimes associated with "disproportionality" or "underrepresentation." The discussion in this section of the report is descriptive, and makes no value judgments regarding the conditions described.

Table 14A

Percentages of Male and Female Students in Various CR and NCR Groups

Student Group	Grade 2		Grade 4		Grade 6	
	Male	Female Total	Male	Female Total	Male	Female Total
CR (separate classes)	52.4	47.6 17.1	52.6	47.4 17.1	51.8	48.2 15.4
NCR (separate classes)	50.8	49.2 12.0	46.1	53.9 13.5	50.0	50.0 21.7
CR (combined classes)	58.1	41.9 23.6	58.6	41.4 19.4	57.7	42.3 18.6
NCR (combined classes)	47.4	52.6 37.1	48.0	52.0 40.1	49.6	50.4 35.0
NCR schools	50.7	49.3 10.3	51.2	48.8 9.9	51.1	48.9 9.4
Total	51.5	48.5	50.9	49.1	51.7	48.3
Chi Square = 116 (p < .01; N = 17,023)			Chi Square = 130 (p < .01; N = 17,419)		Chi Square = 57 (p < .01; N = 16,027)	

Table 14B

Percentages of Male and Female Students in Various CR and NCR Groups

Student Group	Grade 2		Grade 4		Grade 6	
	Male	Female Total	Male	Female Total	Male	Female Total
CR (separate and combined)	55.7	44.3 45.3	55.8	44.2 40.5	55.0	45.0 37.5
NCR (separate and combined)	48.2	51.8 54.7	47.5	52.5 59.5	49.7	50.3 62.5
in CR schools	51.6	49.4	50.9	49.1	51.7	48.3
Total	Chi Square = 86 (p < .01; 1 DF)		Chi Square = 105 (p < .01; 1 DF)		Chi Square = 38 (p < .01; 1 DF)	

Table 14C

Percentages of Male and Female Students in Various CR and NCR Groups

Student Group	Grade 2		Grade 4		Grade 6	
	Male	Female Total	Male	Female Total	Male	Female Total
CR (separate and combined)	55.7	44.3 40.7	55.8	44.2 36.5	55.0	45.0 34.0
All NCR	48.6	51.4 59.3	48.1	51.9 63.5	49.9	50.1 66.0
Total	51.5	48.5	50.9	49.1	51.7	48.3
	Chi Square = 83 (p < .01; 1 DF)		Chi Square = 97 (p < .01; 1 DF)		Chi Square = 37 (p < .01; 1 DF)	

Table 15
Percentages of Male and Female Students in Various CR/NCR x Funding Category Groups, Grade 4

Student Group	Funding Category									
	Total Title I		Partial Title I		Non-Title I		Unclassifiable Funding			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
CR separate	50.4	49.6	49.4	50.6	55.2	44.8	56.7	43.3	56.7	43.3
NCR separate	48.4	51.6	41.4	58.6	48.8	51.2	43.7	56.3	43.7	56.3
CR combined	60.5	39.5	57.4	42.6	56.0	44.0	57.6	42.4	57.6	42.4
NCR combined	48.3	51.7	50.2	49.8	45.8	54.2	48.0	52.0	48.0	52.0
Total	51.3	48.7	51.2	48.8	50.0	50.0	50.5	49.5	50.5	49.5

Chi Square = 23 (p < .01; 9 DF)

Inspection of Table 16A reveals that socioeconomic status is highly related to membership in the various student groups shown, and that the bulk of this effect is due to a disproportionately high percentage of low SES students in the "CR, separate classes" group.

Tables 16B and 16C show the results of chi square analyses of the same data, grouped differently. Inspection of these tables shows that, at each of the three grade levels, low SES students are relatively heavily represented in the CR group.

In order to assess the effect of funding source upon the relationship between socioeconomic status and CR/NCR grouping, additional chi square analyses were performed to test the SES x CR/NCR grouping x funding category interaction. In those situations where the interaction is significant, it indicates that the relationship between SES and CR/NCR grouping differs among (depends upon) funding category. Significant three-way interactions were found at each of grade levels 2, 4, and 6. The cell percentages are shown in Tables 17A, 17B, and 17C.

Preexisting differences in ethnicity. Responses to the Individual Student Questionnaire item regarding ethnic background were the basic data for chi square analyses of the differences among various CR and NCR groups. The groups compared were the same ones as were used in analyses of preexisting differences in sex and ethnicity. Table 18A shows percentages of students in each of six ethnic categories for each of the five groups.

Chi squares for grades 2, 4, and 6 were all highly significant, showing that the various ethnic groups were not proportionally represented in the various student groups. Inspection of Table 18A shows that, consistently across the three grade levels, Blacks and Spanish surnamed students are particularly overrepresented in the "CR students in separate classes" group, while Whites are overrepresented in all three NCR groups. In grade 2, for example, Blacks comprise 14.9% of the total sample, but 38.7% of the CR students in separate

Table 16A
Percentages of Low and High SES Students in Various CR and MCR Groups

Student Group	Grade 2				Grade 4				Grade 6											
	Low SES		High SES		Total	Low SES		High SES		Total	Low SES		High SES		Total					
	N	%	N	%		N	%	N	%		N	%	N	%						
CR (separate classes)	1638	61.7	1018	38.3	2656	17.3	1779	67.4	859	32.6	2638	16.6	1390	60.4	913	39.6	2303	15.5		
MCR (separate classes)	922	48.1	994	51.9	1916	23.3	922	41.6	1293	58.4	2215	13.9	1260	38.2	2040	61.8	3300	22.1		
CR (combined classes)	1706	47.7	1872	52.3	3578	12.5	1616	54.0	1379	45.0	2995	18.9	1453	52.5	1317	47.5	2770	18.6		
MCR (combined classes)	2023	36.5	3527	63.5	5550	36.2	2550	39.8	3861	60.2	6411	40.4	2098	40.4	3098	59.6	5196	34.9		
MCR schools	748	45.7	889	54.3	1637	10.7	667	41.1	957	58.9	1624	10.2	659	49.5	673	50.5	1332	8.9		
Total	7037	45.9	8300	54.1	15337		7534	47.7	8349	52.3	15883		6860	46.0	8041	54.0	14901			
	Chi Square = 2.659 (p < .001)				Chi Square = 3.910 (p < .001)				Chi Square = 3.706 (p < .001)											

Note: The socioeconomic index used to categorize students for this analysis was taken from the Student Questionnaire.

Table 16B
Percentages of Low and High SES Students in Various CR and MCR Groups

Student Group	Grade 2			Grade 4			Grade 6											
	Low SES N	High SES N	Total N	Low SES N	High SES N	Total N	Low SES N	High SES N	Total N									
CR (separate and comb.)	3344	53.6	2890	46.4	6234	45.5	3395	60.3	2238	39.7	5633	39.5	2843	56.0	2230	44.0	5073	37.4
NCR (separate and comb.)	2945	39.5	4521	60.5	7466	54.5	3472	40.3	5154	59.7	8626	60.5	3358	39.5	5138	60.5	8496	62.6
Total	6289	45.9	7411	54.1	13700		6867	48.2	7392	51.8	14259		6201	45.7	7368	54.3	13569	
	Chi Square = 247 (p < .001; 1 DF)			Chi Square = 525 (p < .001; 1 DF)			Chi Square = 293 (p < .001; 1 DF)											

Table 16C
Percentages of Low and High SES Students in Various CR and MCR Groups

Student Group	Grade 2			Grade 4			Grade 6											
	Low SES	High SES	Total	Low SES	High SES	Total	Low SES	High SES	Total									
	N	Z	N	Z	N	Z	N	Z	N	Z								
CR (separate and comb.)	3344	53.6	2890	46.4	6234	40.6	3395	60.3	2238	39.7	5633	35.5	2843	56.0	2230	44.0	5073	34.0
All MCR	3693	40.6	5410	59.4	9103	59.4	4139	40.4	6111	59.6	10250	64.5	4017	40.9	5811	59.1	9828	66.0
Total	7037	45.9	8300	54.1	15337		7534	47.4	8349	52.6	15883		6860	46.0	8041	54.0	14901	
	Chi Square = 268 (p < .001; 1 DF)			Chi Square = 496 (p < .001; 1 DF)			Chi Square = 332 (p < .001; 1 DF)											

Table 17A

Percentages of Low and High SES Students in Various CR and MCR Groups, Grade 2

Student Group	Total Title I			Partial Title I			Non-Title I			Unclassifiable Funding														
	Low SES		Total	High SES		Total	Low SES		Total	High SES		Total												
	N	%		N	%		N	%		N	%		N	%										
CR separate	735	65.7	384	34.3	1119	19.4	125	50.6	122	49.4	247	20.7	203	48.4	216	51.6	419	18.8	575	66.0	296	34.0	871	19.3
MCR separate	469	44.7	581	55.3	1050	18.2	11	37.9	18	62.1	29	2.4	228	73.1	84	26.9	312	14.0	214	40.8	311	59.2	525	11.7
CR combined	826	52.3	640	43.7	1466	25.4	233	63.5	134	36.5	367	30.7	176	32.3	368	67.7	544	24.4	741	39.2	730	60.8	1201	26.7
MCR combined	952	44.6	1184	55.4	2136	37.0	209	37.8	344	62.2	553	46.2	400	41.9	555	58.1	955	42.8	462	24.2	1444	75.8	1906	42.3
Total	2982	51.7	2789	48.3	5771		578	48.3	618	51.7	1196		1007	45.2	1223	54.8	2230		1722	38.2	2781	61.8	4503	

Chi Square = 347; 9 D.F.; p < .001

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Table 17B

Percentages of Low and High SES Students in Various CR and MCR Groups, Grade 4

Student Group	Total Title I						Partial Title I						Non-Title I						Unclassifiable Funding					
	Low SES		High SES		Total		Low SES		High SES		Total		Low SES		High SES		Total		Low SES		High SES		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
CR separate	899	65.3	312	34.7	1211	20.3	169	55.0	138	45.0	307	22.2	230	49.4	236	50.6	466	20.5	481	73.5	173	26.5	654	14.1
MCR separate	422	50.5	414	49.5	836	14.0	18	12.0	132	88.0	150	10.8	225	47.1	119	52.9	344	15.1	257	29.0	628	71.0	885	19.1
CR combined	737	58.8	516	41.2	1253	21.0	256	71.7	101	28.3	357	25.8	167	42.3	228	57.7	395	17.4	456	46.1	534	53.9	990	21.4
MCR combined	1309	49.1	1359	50.9	2668	44.7	247	43.3	324	56.7	571	41.2	363	34.0	705	66.0	1068	47.0	631	30.0	1473	70.0	2104	43.4
Total	3367	56.4	2601	43.6	5968		690	49.8	695	50.2	1385		985	43.3	1288	56.7	2273		1825	39.4	2808	60.6	4633	

Chi Square = 346; 9 D.F.; p < .001

Table 17C

Percentages of Low and High SES Students in Various CR and MCR Groups, Grade 6

Student Group	Total Title I						Partial Title I						Non-Title I						Unclassifiable Funding					
	Low SES		High SES		Total		Low SES		High SES		Total		Low SES		High SES		Total		Low SES		High SES		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
CR separate	808	68.9	365	31.1	1173	22.6	83	43.2	109	56.8	192	17.6	201	54.5	168	45.5	369	15.0	298	52.4	271	47.6	569	11.8
MCR separate	428	69.1	444	30.9	872	16.8	38	20.9	144	79.1	182	16.7	409	69.9	176	30.1	585	23.8	385	23.2	1276	76.8	1661	34.5
CR combined	687	59.8	461	40.2	1148	22.1	199	70.3	84	29.7	283	25.9	240	50.7	233	49.3	473	19.2	327	37.8	539	62.2	866	18.0
MCR combined	867	43.3	1137	56.7	2004	38.6	195	44.8	240	55.2	435	39.8	396	38.4	636	61.6	1032	42.0	640	37.1	1085	62.9	1725	35.8
Total	2790	53.7	2407	46.3	5197		515	47.2	577	52.8	1092		1246	50.7	1213	49.3	2459		1650	34.2	3171	65.8	4821	

Chi Square = 385; 9 D.F.; p < .001

Table 18A

Percentage of Students of Various Ethnic Backgrounds in Various CR and NCR Groups

Student Group	Grade 2						Grade 4						Grade 6								
	White or Caucasian	Black or Negro	Spanish Surnamed	Oriental	American Indian	Other	Total	White or Caucasian	Black or Negro	Spanish Surnamed	Oriental	American Indian	Other	Total	White or Caucasian	Black or Negro	Spanish Surnamed	Oriental	American Indian	Other	Total
CR (separate classes)	45.8	38.7	14.6	0.2	0.4	0.2	17.0	45.6	35.6	16.5	0.2	1.8	0.3	17.2	47.0	33.0	17.6	0.2	0.5	1.8	15.6
NCR (separate classes)	85.1	11.3	1.5	0.8	0.4	0.8	12.0	84.4	12.0	2.2	0.8	0.1	0.4	13.6	88.4	6.6	4.1	0.4	0.2	0.3	21.7
CR (combined classes)	76.3	15.9	5.9	0.2	1.3	0.4	24.0	75.4	19.0	4.3	0.2	0.7	0.5	19.4	69.9	21.6	5.9	0.1	1.6	0.7	18.9
NCR (combined classes)	89.7	6.6	2.4	0.5	0.4	0.3	36.6	97.3	8.9	2.5	0.5	0.6	0.2	40.0	88.2	8.2	2.3	0.4	0.8	0.1	35.1
NCR schools	85.1	7.0	6.2	1.0	0.4	0.3	10.5	85.6	7.1	5.8	0.7	0.6	0.3	9.9	90.1	6.8	2.1	0.7	0.2	0.0	8.7
Total	78.0	14.9	5.6	0.5	0.6	0.4		77.3	15.7	5.5	0.5	0.8	0.3		78.5	4.2	5.8	0.4	0.7	0.5	
	Chi Square = 2,496 (p < .001; N = 15,922)							Chi Square = 2,334 (p < .001; N = 16,227)							Chi Square = 2,368 (p < .001; N = 15,134)						

Percentage of Students of Various Ethnic Backgrounds in Various CR and NCR Groups

Table 18C

Percentage of Students of Various Ethnic Backgrounds in Various CR and NCR Groups																					
CR (separate & com.)	63.5	25.5	9.5	0.2	0.9	0.3	40.9	61.4	26.8	10.0	0.2	1.2	0.4	36.6	59.5	26.8	11.2	0.2	1.1	1.2	34.6
All NCR	87.9	7.6	2.9	0.7	0.4	0.4	59.1	86.4	9.3	3.0	0.6	0.5	0.3	63.4	88.5	7.5	2.9	0.4	0.5	0.1	65.4
Total	77.9	14.9	5.6	0.5	0.6	0.4		77.3	15.7	5.5	0.5	0.8	0.3		78.5	14.2	5.8	0.4	0.7	0.5	
	Chi Square = 1,450 (p < .001; 5 DF)							Chi Square = 1,420 (p < .001; 5 DF)							Chi Square = 1,776 (p < .001; 5 DF)						

classes. In the same grade, Whites comprise 78.0% of the total sample, but 85.1%, 89.7%, and 85.1% of the three listed NCR groups, respectively. It is of interest to note that in grades 2 and 4, ethnic groups are in general proportionally represented in classes combining CR and NCR students. However, by the sixth grade a trend toward underrepresentation of Whites and overrepresentation of Blacks in such classes seems to be emerging.

Tables 18B and 18C show the results of chi square analyses of the same data, grouped differently. Inspection of these tables shows that, at each grade level, Blacks and Spanish surnamed students are overrepresented in the CR group and Whites are overrepresented in the NCR groups.

The foregoing results suggest the possibility that students belonging to ethnic minorities are being assigned to "CR students in separate classes" groups for reasons other than their reading achievement levels. In order to test this hypothesis, the student samples for each of the three largest ethnic groups (Caucasian or White, Negro or Black, and Spanish surnamed) were divided into deciles on the basis of their Total Reading Achievement (see Table 12) pretest scores. The following three-way design was created at each grade level: Ethnicity (3 categories) x Grouping (separate and combined) x Pretest Decile (10 categories). The chi-square tests for the Ethnicity x Grouping interaction were highly significant at each grade level ($\chi^2 = 537, 515, \text{ and } 237$ for grades 2, 4, and 6, respectively; $DF = 2$; $p < .01$), showing that there was a relationship between student ethnicity and the assignment of students to combined or separate CR/NCR groups. Table 19 shows the nature of this relationship.

Examination of Table 19 reveals that Caucasian students, regardless of grade level and regardless of reading achievement level, are more likely to be assigned to a combined CR/NCR class than a separate CR or NCR class. On the other hand, both Black and Spanish surnamed students, regardless of grade level and regardless of reading achievement level, are either more likely to be assigned to a separate CR or NCR class than a combined CR/NCR class, or are approximately equally likely to be assigned to either. Thus it seems that such student assignments are being made at least in part on the basis of ethnicity, apart from reading achievement level.

Table 19
Percentages of Students by Ethnicity, CR/NCR Grouping, and
Achievement Pretest Level

Decile	Grade 2											
	Caucasian or White				Negro or Black				Spanish Surnamed			
	Separate		Combined		Separate		Combined		Separate		Combined	
	CR/NCR		CR/NCR		CR/NCR		CR/NCR		CR/NCR		CR/NCR	
	Grouping		Grouping		Grouping		Grouping		Grouping		Grouping	
	N	%	N	%	N	%	N	%	N	%	N	%
1	135	1.4	400	4.2	270	14.7	224	12.2	79	13.5	49	8.4
2	176	1.9	489	5.2	183	10.0	130	7.1	53	9.1	41	7.0
3	236	2.5	618	6.5	175	9.6	121	6.6	63	10.8	52	8.9
4	213	2.3	616	6.5	101	5.5	86	4.7	29	5.0	33	5.6
5	250	2.6	777	8.2	68	3.7	83	4.5	17	2.9	30	5.1
6	272	2.9	857	9.1	68	3.7	60	3.3	16	2.7	29	5.0
7	242	2.6	788	8.3	39	2.1	57	3.1	14	2.4	17	2.9
8	284	3.0	758	8.0	35	1.9	48	2.6	24	4.1	12	2.1
9	294	3.1	792	8.4	34	1.7	31	1.7	9	1.5	8	1.4
10	373	4.0	882	9.3	9	0.5	10	0.6	2	0.3	8	1.4
Total	2475	26.3	6977	73.7	982	53.4	850	46.4	306	52.3	279	47.8

Grade 4												
1	159	1.6	337	3.4	283	13.6	230	11.1	119	19.4	53	8.7
2	215	2.2	520	5.3	245	11.8	212	10.2	76	12.4	44	7.2
3	183	1.9	535	5.5	175	8.4	159	7.7	52	8.5	36	5.9
4	259	2.6	731	7.5	140	6.7	128	6.2	51	8.3	33	5.4
5	282	2.9	742	7.6	90	4.3	90	4.3	27	4.4	17	2.8
6	284	2.9	801	8.2	62	3.0	60	2.9	18	2.9	17	2.8
7	306	3.1	710	7.2	38	1.8	40	1.9	13	2.1	10	1.6
8	368	3.8	944	9.6	34	1.6	38	1.8	12	2.0	13	2.1
9	316	3.2	796	8.1	12	0.6	20	1.0	10	1.6	4	0.7
10	389	4.0	940	9.6	12	0.6	11	0.5	5	0.8	3	0.5
Total	2761	28.2	7056	72.0	1091	52.4	988	47.6	383	62.4	230	37.7

Table 19, cont.

Decile	Caucasian or White				Grade 6				Spanish Surnamed			
	Separate		Combined		Separate		Combined		Separate		Combined	
	CR/NCR		CR/NCR		CR/NCR		CR/NCR		CR/NCR		CR/NCR	
	Grouping		Grouping		Grouping		Grouping		Grouping		Grouping	
	N	%	N	%	N	%	N	%	N	%	N	%
1	154	1.6	314	3.3	242	13.7	309	17.5	97	14.5	70	10.4
2	264	2.8	403	4.2	179	10.1	218	12.3	91	13.6	44	6.6
3	287	3.0	497	5.2	153	8.7	148	8.4	76	11.3	30	4.5
4	350	3.7	589	6.1	98	5.5	82	4.6	41	6.1	19	2.8
5	345	3.6	618	6.4	66	3.7	60	3.4	47	7.0	21	3.1
6	374	3.9	715	7.5	38	2.2	39	2.2	25	3.7	22	3.3
7	351	3.7	746	7.8	25	1.4	24	1.4	21	3.1	15	2.3
8	456	4.8	724	7.6	19	1.1	20	1.1	12	1.8	12	1.8
9	477	5.0	723	7.5	15	0.9	19	1.1	9	1.3	7	1.0
10	528	5.5	674	7.0	6	0.3	9	0.5	3	0.5	9	1.3
Total	3586	37.6	6003	62.6	841	47.6	928	52.5	422	62.9	249	37.1

In order to assess the effect of funding source upon the relationship between ethnicity and CR/NCR grouping, additional chi square analyses were performed to test the ethnicity x CR/NCR grouping x funding category interaction (in order to preserve adequate cell size, only the ethnicity categories of Caucasian or White, Negro or Black, and Spanish Surnamed were included). In those situations where the interaction is significant, it indicates that the relationship between ethnicity and CR/NCR grouping differs among (depends upon) funding category. Significant three-way interactions were found at each of grade levels 2, 4, and 6. The cell percentages are shown in Tables 20A through 20F.

Preexisting age differences. Analyses of variance were performed using student age as the dependent variable and the individual student as the unit of analysis. The comparisons tested were those described in the preceding sections on sex, socioeconomic status, and ethnicity. Table 21 shows the results of these analyses.

Table 20A
Percentages of Students of Various Ethnic Backgrounds in Various CR and MCR Groups

Grade	Total Title I					Partial Title I					Non-Title I					Unclassifiable Funding				
	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total
	Caucasian	Megro	Surmamed	Surmamed		Caucasian	Megro	Caucasian	Megro		Caucasian	Megro	Caucasian	Megro		Caucasian	Megro	Caucasian	Megro	
CR sep.	33.0	43.5	23.5	20.0	85.2	14.8	0	21.3	8.6	69.9	21.5	19.6	70.6	25.3	4.1	18.7				
MCR sep.	73.6	21.0	5.4	25.8	68.3	27.9	3.8	29.7	88.0	10.6	1.4	24.8	78.8	11.3	9.9	26.5				
CR comb.	77.6	20.5	1.9	17.1	96.2	0	3.8	2.3	96.7	1.3	0	13.6	96.3	2.0	1.8	11.1				
MCR comb.	86.2	12.4	1.4	37.1	90.9	5.2	3.9	46.7	97.5	1.9	0.6	43.0	92.3	3.6	4.1	43.7				
Total	70.9	22.2	6.9		83.1	13.9	3.0		78.6	16.6	4.6		85.1	9.5	5.4					

Chi Square = 979 (p < .01; 18 DF)

Table 20B

Grade	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total
	Caucasian	Megro	Surmamed	Surmamed		Caucasian	Megro	Caucasian	Megro		Caucasian	Megro	Caucasian	Megro		Caucasian	Megro	Caucasian	Megro	
CR sep.	34.7	40.3	25.0	20.9	80.3	9.7	10.0	22.6	25.8	64.8	9.4	22.0	67.2	21.3	11.5	13.8				
MCR sep.	71.2	23.6	5.2	20.8	62.9	26.6	7.5	26.9	93.5	6.3	0.3	17.0	78.3	18.6	3.1	22.1				
CR comb.	66.0	30.6	3.4	13.9	97.4	1.7	0.9	9.0	96.6	1.2	0.2	13.0	96.9	0.9	2.2	18.5				
MCR comb.	86.7	11.5	1.8	44.3	83.8	7.5	8.7	41.5	97.8	2.0	0.2	46.0	84.6	10.2	3.2	45.6				
Total	69.7	22.7	7.6		78.6	12.6	8.7		81.3	16.4	2.3		84.0	11.9	4.1					

Chi Square = 965 (p < .01; 18 DF)

Table 20C

Grade	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total	White or Black or Spanish		White or Black or Spanish		Total
	Caucasian	Megro	Surmamed	Surmamed		Caucasian	Megro	Caucasian	Megro		Caucasian	Megro	Caucasian	Megro		Caucasian	Megro	Caucasian	Megro	
CR sep.	36.9	42.3	20.8	22.5	92.5	5.4	2.1	17.1	35.1	57.8	7.1	16.2	64.8	10.1	25.1	12.1				
MCR sep.	65.4	29.9	4.7	22.4	73.7	24.1	2.2	24.6	75.5	23.4	1.1	19.1	75.2	12.5	12.3	17.6				
CR comb.	81.8	15.7	2.5	16.5	75.7	0	24.3	16.5	97.7	1.6	0.7	23.0	91.3	4.6	4.1	34.2				
MCR comb.	86.6	11.4	2.0	38.6	91.9	5.2	3.1	41.8	93.9	5.8	0.3	41.7	88.6	7.6	3.8	36.1				
Total	69.9	23.2	6.9		84.9	8.9	6.2		81.7	16.6	1.7		84.3	7.7	8.0					

Chi Square = 522 (p < .01; 18 DF)

Table 20D
Percentages of Students of Various Ethnic Backgrounds in Various CR and MCR Groups

Grade 2	Title I				Non-Title I				Unclassifiable Funding			
	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N
CR (sep. & comb.)	1914	59.5	942	29.3	362	11.2	3218	46.7	527	53.9	352	36.1
MCR (sep. & comb.) in CR schools	3115	84.7	493	13.4	71	1.9	3679	53.3	1247	97.8	22	1.7
Total	5029	72.9	1435	20.8	433	6.3	6897		1774	78.8	374	16.6
Chi Square = 267; 4 D.F.; p < .001												

Table 20E

Grade 4	Title I				Non-Title I				Unclassifiable Funding			
	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N
CR (sep. & comb.)	1744	56.6	903	29.3	436	14.1	3083	43.1	503	55.4	357	39.2
MCR (sep. & comb.) in CR schools	3352	82.5	591	14.5	121	3.0	4064	56.9	1392	98.0	25	1.7
Total	5096	71.3	1494	20.9	557	7.6	7147		1895	81.3	382	16.4
Chi Square = 274; 4 D.F.; p < .001												

Table 20F

Grade 6	Title I				Non-Title I				Unclassifiable Funding			
	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N	White or Caucasian N	Black or Negro N	Spanish Surname N	Total N
CR (sep. & comb.)	531	56.2	895	32.8	300	11.0	2726	44.3	491	57.0	338	39.2
MCR (sep. & comb.) in CR schools	2931	85.6	376	11.0	118	3.4	3425	55.7	1506	95.3	68	4.3
Total	4462	72.5	1271	20.7	418	6.8	6151		1997	81.8	406	16.6
Chi Square = 126; 4 D.F.; p < .001												

Examination of Table 21 reveals that, in general across grade levels, CR students in combined classes are older than their NCR combined counterparts, and also older than CR students in separate classes. In order to assess the effect of funding source upon the relationship between age and CR/NCR grouping, additional analyses of variance were performed to test the CR/NCR grouping x funding interaction, with age as the dependent variable and the school mean (for each of grades 2, 4, and 6) as the unit of analysis. At each grade level, the test of the CR/NCR x funding interaction was non-significant, thus indicating that the age differences among CR/NCR groups do not vary among funding categories.

Preexisting differences in reading achievement and attitude toward reading. Analyses of variance were performed on all Fall 1972 reading achievement and attitude toward reading pretest scores, in order to describe differences among various groups which existed prior to the reading instruction of Phase II. The pattern of these differences should also be useful in determining the extent to which the classification process was validly carried out. The unit of analysis was the appropriate mean of students in a class. Thus in CR/NCR combined classes, both CR and NCR means were computed and analyzed, each on a subgroup of students in the class. Instructional settings were categorized in the following ways:

1. an instructional group containing only CR students, in (of course) a CR school
2. an instructional group containing only NCR students, in a CR school
3. CR students in an instructional group containing both CR and NCR students, in a CR school
4. NCR students in an instructional group containing both CR and NCR students, in a CR school
5. NCR (of course) students in an NCR school

Table 21
Preexisting Age Differences Among Various Compensatory and
Non-Compensatory Student Groups

Grade 2	Comparison	F	D.F.	Direction of Difference	Proportion of Variance Explained by Comparison	Pretest Age Means (Years)	
						$\frac{1}{4}$	$\frac{2}{2}$
	CR sep vs. CR comb, both in CR schools	16.7 ³	(1;16,709)	CR comb > CR sep	<.01	7.49	7.54
	CR comb vs. NCR comb, both in CR schools	53.6 ³	(1;16,709)	CR comb > NCR comb	<.01	7.54	7.47
	CR sep vs. NCR sep, both in CR schools	NS				7.49	7.47
	NCR sep vs. NCR comb, both in CR schools	NS				7.47	7.47
	All CR vs. NCR in NCR schools	NS				7.52	7.50
	CR schools vs. NCR schools	NS				7.49	7.50
	All CR vs. all NCR, ⁵ both in CR schools	28.4 ³	(2;16,709)	CR > NCR	<.01	7.52	7.47
	All CR vs. all NCR ⁶	19.0 ³	(3;16,709)	CR > NCR	<.01	7.52	7.48

Table 21 (cont.)

Grade 4		F	D.F.	Direction of Difference	Proportion of Variance Explained by Comparison	Pretest Age Means (Years)	
Comparison						$\frac{1^4}{2}$	$\frac{2}{2}$
CR sep vs. CR comb, both in CR schools	NS					9.66	9.64
CR comb vs. NCR comb, both in CR schools	193.8 ³	(1;17,007)	CR comb > NCR comb	.01		9.64	9.48
CR sep vs. NCR sep, both in CR schools	158.8 ³	(1;17,007)	CR sep > NCR sep	.01		9.66	9.47
NCR sep vs. NCR comb, both in CR schools	NS					9.47	9.48
All CR vs. NCR in NCR schools	104.8 ³	(1;17,007)	CR > NCR	.01		9.65	9.50
CR schools vs. NCR schools	21.0 ³	(1;17,007)	CR > NCR	<.01		9.56	9.50
All CR vs. all NCR, ⁵ both in CR schools	176.3 ³	(2;17,007)	CR > NCR	.02		9.65	9.48
All CR vs. all NCR ⁶	122.9 ³	(3;17,007)	CR > NCR	<.01		9.65	9.48

Table 21 (cont.)

Grade 6	Comparison	F	D.F. (1;15,820)	Direction of Difference	Proportion of Variance Explained by Comparison	Pretest Age Means (Years)	
						1 ⁴	2
	CR sep vs. CR comb, both in CR schools	10.4 ²	(1;15,820)	CR comb > CR sep	<.01	11.68	11.73
	CR comb vs. NCR comb, both in CR schools	328.3 ³	(1;15,820)	CR comb > NCR comb	.02	11.73	11.48
	CR sep vs. NCR sep, both in CR schools	147.8 ³	(1;15,820)	CR sep > NCR sep	.01	11.68	11.49
	NCR sep vs. NCR comb, both in CR schools	NS				11.49	11.48
	All CR vs. NCR in NCR schools	109.3 ³	(1;15,820)	CR > NCR	.01	11.70	11.52
	CR schools vs. NCR schools	20.1 ³	(1;15,820)	CR > NCR	<.01	11.59	11.52
	All CR vs. all NCR, ⁵ both in CR schools	238.0 ³	(2;15,820)	CR > NCR	.03	11.70	11.48 ¹
	All CR vs. all NCR ⁶	161.3 ³	(3;15,820)	CR > NCR	<.01	11.70	11.49

1 .05 level

2 .01 level

3 .001 level

4 "1" indicates the first group mentioned in the "comparison" column, "2" indicates the second. E.G., for the first listed comparison, "1" refers to CR sep and "2" refers to CR comb.

5 This comparison was analyzed as a joint test of the following two comparisons: CR combined vs. NCR combined, both in CR schools; CR separate vs. NCR separate, both in CR schools. The means shown are those of the comparison groups, although the joint test is not a direct test of the difference between them.

6 This comparison was analyzed as a joint test of the following three comparisons: CR combined vs. NCR combined, both in CR schools; CR separate vs. NCR separate, both in CR schools; all CR vs. NCR in NCR schools. The means shown are those of the comparison groups, although the joint test is not a direct test of the difference between them.

The five groups listed on page 80, in various combinations, formed the basis for two sets of four comparisons each, the second and third comparisons in each set being common to both sets:

Set I

- A. CR students in separate classes (group 1 above) vs. CR students in combined classes (group 3 above), in CR schools
- B. CR students in combined classes (group 3 above) vs. NCR students in combined classes (group 4 above), in CR schools
- C. CR students in separate classes (group 1) vs. NCR students in separate classes (group 2), in CR schools
- D. CR students in both types (separate or combined) of classes (groups 1 and 3) vs. NCR students in NCR schools (group 5)

Set II

- A. NCR students in separate classes (group 2) vs. NCR students in combined classes (group 4), in CR schools
- B. Same as comparison B' in Set I
- C. Same as comparison C. in Set I
- D. All students in CR schools (groups 1-4), vs. all (NCR) students in NCR schools (group 5)

Thus the set of six comparisons listed in Table 22 consists of A-D from Set I and A and D from Set II.

Since the distinction between compensatory and non-compensatory students was made by applying a reading achievement level criterion, it was to be expected that such groups would have significantly different means on the reading achievement pretest scores. This in fact was true for most comparisons and most tests, at all three grade levels. Moreover, these differences were in each case found to be in the expected direction; that is, in the direction dictated either by the classification procedure or by typical grouping practices of schools. Thus it was found that the pretest reading achievement means for non-compensatory reading students exceeded those of compensatory students for all comparisons involving these two groups. In terms of the six comparisons previously described, the directions of the differences were:

1. CR combined classes > CR separate classes in grade 2
2. NCR combined classes > CR combined classes in grades 2, 4, 6
3. NCR separate classes > CR separate classes in grades 2, 4, 6
4. NCR separate classes > NCR combined in grade 4
5. NCR schools > CR in separate and combined classes in CR schools in grades 2, 4, 6
6. NCR schools > CR schools in grades 2, 4, 6

Table 21 shows that the only groups under consideration which were not different at the beginning of the 1972-1973 school year were those formed by school grouping practices (separate and combined classes). These groups were equivalent in terms of most reading achievement variables measured in the study, the major notable exceptions being Word Knowledge at grade 2 and all subtests in grade 6 (the compensatory students in combined classes scored better than those in separate classes). The fact that all CR/NCR groups were found to be systematically different, regardless of instructional setting, is evidence that the classification of individual students by local school personnel was, in general, successfully accomplished.

Similar comparisons were made, using Attitude Toward Reading class mean scores as the dependent variable. These results are also shown in Table 22.

Examination of Table 22 shows that the second grade attitude differences are in the same direction as are the corresponding reading achievement results reported in the preceding section. That is, NCR groups in general exceed CR groups with respect to both achievement and attitude. However, in grades 4 and 6, the opposite relationship holds for the attitude data, and it is seen that CR students in general exceed NCR students with respect to their attitudes toward reading. In interpreting this result, it should be remembered that two different attitude measures were used in this study, one for grade 2 and another for grades 4 and 6. If the content or format of these measures were to interact with the differences between CR and NCR students, this interaction might be responsible for part of the apparent difference between the results for

Table 22

Preexisting Differences in Reading Achievement and Attitude Toward Reading
in Various Compensatory and Non-Compensatory Student Groups

Grade 2

Comparison	Criterion	F(1,1279)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means ⁷	
						1	2
CR sep vs. CR comb, both in CR schools	MAT Word Knowledge	6.9 ²	CR comb > CR sep	.01	35	20.1	21.4
	MAT Sentences	NS			13	6.7	6.6
	MAT Stories	NS			29	11.4	11.4
	MAT Reading	NS			42	18.1	18.0
	MAT Total	NS			77	38.3	39.4
	Cooperative Reading	NS			50	19.4	19.3
	MAT Total + Coop. Read.	NS			127	57.9	58.7
	Attitude Toward Reading	NS			15	2.31	2.29
<u>F(1,1267)</u>							
CR comb vs. NCR comb both in CR schools	MAT Word Knowledge	341.6 ³	NCR comb > CR comb	.21	35	21.4	28.1
	MAT Sentences	425.6 ³	NCR comb > CR comb	.25	13	6.6	9.6
	MAT Stories	397.6 ³	NCR comb > CR comb	.24	29	11.4	17.8
	MAT Reading	432.3 ³	NCR comb > CR comb	.25	42	18.0	27.4
	MAT Total	425.3 ³	NCR comb > CR comb	.25	77	39.4	55.5
	Cooperative Reading	393.5 ³	NCR comb > CR comb	.24	50	19.3	27.8
	MAT Total + Coop. Read.	437.2 ³	NCR comb > CR comb	.25	127	58.7	83.3
	Attitude Toward Reading	29.9 ³	NCR comb > CR comb	.02	15	2.29	2.55
		<u>F(1,1267)</u>					

Table 22 (cont.)

Grade 2		Comparison	Criterion	F(1,1279)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means ⁷	
								1	2
CR sep vs. NCR sep, both in CR schools		MAT Word Knowledge		105.2 ³	NCR sep > CR sep	.08	35	20.1	27.0
		MAT Sentences		102.6 ³	NCR sep > CR sep	.07	13	6.7	9.3
		MAT Stories		115.8 ³	NCR sep > CR sep	.08	29	11.4	17.7
		MAT Reading		118.8 ³	NCR sep > CR sep	.09	42	18.1	27.0
		MAT Total		122.4 ³	NCR sep > CR sep	.09	77	38.3	54.0
		Cooperative Reading		118.3 ³	NCR sep > CR sep	.08	50	19.4	27.9
		MAT Total + Coop. Read.		125.7 ³	NCR sep > CR sep	.09	127	57.8	82.0
		Attitude Toward Reading		F(1,1267) 7.2 ²	NCR sep > CR sep	.01	15	2.31	2.55
NCR sep vs. NCR comb, both in CR schools		MAT Word Knowledge		NS			35	27.0	28.1
		MAT Sentences		NS			13	9.3	9.6
		MAT Stories		NS			29	17.7	17.8
		MAT Reading		NS			42	27.0	27.4
		MAT Total		NS			77	54.0	55.5
		Cooperative Reading		NS			50	27.9	27.8
		MAT Total + Coop. Read.		NS			127	82.0	83.3
		Attitude Toward Reading		F(1,1266) NS			15	2.54	2.55

Table 22 (cont.)

Grade 2

Comparison	Criterion	F(1,1279)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means	
						1	2
All CR vs. NCR in NCR schools	MAT Word Knowledge	84.3 ³	NCR > CR	.06	35	20.7	26.9
	MAT Sentences	91.9 ³	NCR > CR	.07	13	6.6	9.2
	MAT Stories	83.4 ³	NCR > CR	.06	29	11.4	16.7
	MAT Reading	91.5 ³	NCR > CR	.07	42	18.0	25.9
	MAT Total	96.3 ³	NCR > CR	.07	77	38.8	52.8
	Cooperative Reading	84.1 ³	NCR > CR	.06	50	19.3	26.5
	MAT Total + Coop. Read.	96.3 ³	NCR > CR	.07	127	58.2	79.3
	Attitude Toward Reading	F(1,1267) 6.9 ²	NCR > CR	.01	15	2.30	2.52
CR schools vs. NCR schools	MAT Word Knowledge	17.2 ³	NCR > CR	.01	35	24.1	26.9
	MAT Sentences	18.5 ³	NCR > CR	.01	13	8.0	9.2
	MAT Stories	14.2 ³	NCR > CR	.01	29	14.6	16.7
	MAT Reading	16.4 ³	NCR > CR	.01	42	22.6	25.9
	MAT Total	18.4 ³	NCR > CR	.01	77	46.8	52.8
	Cooperative Reading	14.4 ³	NCR > CR	.01	50	23.1	26.5
	MAT Total + Coop. Read.	17.7 ³	NCR > CR	.01	127	65.6	79.3
	Attitude Toward Reading	F(1,1267) NS			15	2.41	2.52

Table 22 (cont.)

Grade 2

Comparison	Criterion	F(2,1279)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means ⁷	
						1 ⁴	2
All CR vs. all NCR, both in CR schools ⁵	MAT Word Knowledge	223.4 ³	NCR > CR	.26	35	20.7	27.9
	MAT Sentences	264.1 ³	NCR > CR	.29	13	6.6	9.6
	MAT Stories	256.7 ³	NCR > CR	.29	29	11.4	17.7
	MAT Reading	275.5 ³	NCR > CR	.30	42	18.0	27.3
	MAT Total	273.8 ³	NCR > CR	.30	77	38.8	55.2
	Cooperative Reading	255.9 ³	NCR > CR	.29	50	19.3	27.8
	MAT Total + Coop. Read.	281.5 ³	NCR > CR	.31	127	58.2	83.1
All CR vs. all NCR ⁶	Attitude Toward Reading	<u>F(2,1267)</u> 18.6 ³	NCR > CR	.03	15	2.30	2.52
	MAT Word Knowledge	157.7 ³	NCR > CR	.27	35	20.7	27.8
	MAT Sentences	185.3 ³	NCR > CR	.30	13	6.6	9.5
	MAT Stories	178.8 ³	NCR > CR	.30	29	11.4	17.6
	MAT Reading	192.3 ³	NCR > CR	.31	42	18.0	27.1
	MAT Total	192.0 ³	NCR > CR	.31	77	38.8	54.9
	Cooperative Reading	178.3 ³	NCR > CR	.29	50	19.3	27.7
	MAT Total + Coop. Read.	196.9 ³	NCR > CR	.32	127	58.2	82.6
	Attitude Toward Reading	<u>F(3,1267)</u> 13.1 ³	NCR > CR	.03	15	2.30	2.52

Table 22 (cont.)

Grade 4	Comparison	Criterion	F(1,1232)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means	
							1	2
CR sep vs. CR comb, both in CR schools		MAT Word Knowledge	NS			50	20.0	20.6
		MAT Reading	NS			45	16.2	16.8
		MAT Total	NS			95	36.2	37.4
		Cooperative Reading	NS			50	25.7	26.4
		MAT Total + Coop. Read.	NS			145	62.0	64.8
		Attitude Toward Reading	$F(1,1224)$ 13.1 ³	CR comb > CR sep	.01	25	-0.54	-0.36
CR comb vs. NCR comb, both in CR schools		MAT Word Knowledge	495.8 ³	NCR comb > CR comb	.29	50	20.6	32.7
		MAT Reading	510.3 ³	NCR comb > CR comb	.29	45	16.8	25.6
		MAT Total	523.9 ³	NCR comb > CR comb	.30	95	37.4	58.3
		Cooperative Reading	500.3 ³	NCR comb > CR comb	.29	50	26.4	35.3
		MAT Total + Coop. Read.	534.2 ³	NCR comb > CR comb	.30	145	64.8	93.6
		Attitude Toward Reading	$F(1,1224)$ 310.8 ³	CR comb > NCR comb	.20	25	-0.36	-1.07
CR sep vs. NCR sep, both in CR schools		MAT Word Knowledge	230.6 ³	NCR sep > CR sep	.16	50	20.0	34.6
		MAT Reading	233.4 ³	NCR sep > CR sep	.16	45	16.2	26.8
		MAT Total	241.2 ³	NCR sep > CR sep	.16	95	36.2	61.4
		Cooperative Reading	233.0 ³	NCR sep > CR sep	.16	50	25.7	36.6
		MAT Total + Coop. Read.	246.3 ³	NCR sep > CR sep	.17	145	62.0	98.0
		Attitude Toward Reading	$F(1,1224)$ 72.1 ³	CR sep > NCR sep	.05	25	-0.54	-1.15

Table 22 (cont.)

Grade 4	Comparison	Criterion	F(1,1232)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means	
							1 ⁴	2
Grade 4	NCR sep vs. NCR comb, both in CR schools	MAT Word Knowledge	5.0 ¹	NCR sep > NCR comb	<.01	50	34.6	32.7
		MAT Reading	NS			45	26.8	25.6
		MAT Total	4.5 ¹	NCR sep > NCR comb	<.01	95	61.4	58.3
		Cooperative Reading	3.9 ¹	NCR sep > NCR comb	<.01	50	36.6	35.3
		MAT Total + Coop. Read.	4.5 ¹	NCR sep > NCR comb	<.01	145	93.0	93.6
	Attitude Toward Reading		F(1,1224) NS			25	-1.15	-1.07
All CR vs. NCR in CR schools		MAT Word Knowledge	112.0 ³	NCR > CR	.08	50	20.3	31.0
		MAT Reading	125.2 ³	NCR > CR	.09	45	16.5	24.6
		MAT Total	122.5 ³	NCR > CR	.09	95	36.8	55.6
		Cooperative Reading	112.0 ³	NCR > CR	.08	50	26.0	33.9
		MAT Total + Coop. Read.	123.4 ³	NCR > CR	.09	145	62.9	90.0
	Attitude Toward Reading		F(1,1224) 49.4 ³	CR > NCR	.04	25	-0.42	-0.97
CR schools vs. NCR schools		MAT Word Knowledge	16.3 ³	NCR > CR	.01	50	27.0	31.0
		MAT Reading	21.1 ³	NCR > CR	.02	45	21.3	24.6
		MAT Total	19.0 ³	NCR > CR	.02	95	47.3	55.6
		Cooperative Reading	16.0 ³	NCR > CR	.01	50	31.0	33.9
		MAT Total + Coop. Read.	18.8 ³	NCR > CR	.02	145	79.3	90.0
	Attitude Toward Reading		F(1,1224) 7.1 ²	CR > NCR	.01	25	-0.72	-0.97

Table 22 (cont.)

Grade 4	Comparison	Criterion	F(2,1232)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means	
							1	2
All CR vs. all NCR, both in ⁵ schools		MAT Word Knowledge	363.2 ³	NCR > CR	.37	50	20.3	33.0
		MAT Reading	371.8 ³	NCR > CR	.38	45	16.5	25.8
		MAT Total	382.5 ³	NCR > CR	.38	95	36.8	58.9
		Cooperative Reading	366.6 ³	NCR > CR	.37	50	26.0	35.5
		MAT Total + Coop. Read.	390.3 ³	NCR > CR	.39	145	62.9	94.4
		Attitude Toward Reading	191.4 ³	CR > NCR	.24	25	-0.42	-1.09
All CR vs. all NCR ⁶		MAT Word Knowledge	251.5 ³	NCR > CR	.38	50	20.3	32.8
		MAT Reading	259.3 ³	NCR > CR	.39	45	16.5	25.7
		MAT Total	265.6 ³	NCR > CR	.39	95	36.8	58.5
		Cooperative Reading	253.6 ³	NCR > CR	.38	50	26.0	35.3
		MAT Total + Coop. Read.	270.7 ³	NCR > CR	.40	145	62.9	93.9
		Attitude Toward Reading	131.4 ³	CR > NCR	.24	25	-0.42	-1.08

Table 22 (cont.)

Grade 6	Comparison	Criterion	F(1,1014)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Retest Raw Score Means	
							1	2
CR sep vs. CR comb, both in CR schools	MAT Word Knowledge	MAT Word Knowledge	5.4 ¹	CR comb > CR sep	<.01	50	30.9	32.6
		MAT Reading	4.6 ¹	CR comb > CR sep	<.01	45	23.4	24.7
		MAT Total	5.2 ¹	CR comb > CR sep	<.01	95	54.3	57.3
	STEP II Reading	STEP II Reading	4.3 ¹	CR comb > CR sep	<.01	60	26.2	27.8
		MAT Total + STEP Read.	5.0 ¹	CR comb > CR sep	<.01	155	80.6	85.2
		Attitude Toward Reading	4.5 ¹	CR comb > CR sep	<.01	25	-0.51	-0.38
CR comb vs. NCR comb, both in CR schools	MAT Word Knowledge	MAT Word Knowledge	214.7 ³	NCR > CR	.17	50	32.6	41.3
		MAT Reading	258.4 ³	NCR > CR	.20	45	24.7	32.9
		MAT Total	246.1 ³	NCR > CR	.20	95	57.3	74.2
	STEP II Reading	STEP II Reading	303.2 ³	NCR > CR	.23	60	27.8	38.6
		MAT Total + STEP Read.	277.4 ³	NCR > CR	.21	155	85.2	112.8
		Attitude Toward Reading	227.9 ³	CR > NCR	.18	25	-0.38	-1.13
CR sep vs. NCR sep, both in CR schools	MAT Word Knowledge	MAT Word Knowledge	113.0 ³	NCR > CR	.10	50	30.9	40.3
		MAT Reading	128.9 ³	NCR > CR	.11	45	23.4	32.0
		MAT Total	126.0 ³	NCR > CR	.11	95	54.3	72.3
	STEP II Reading	STEP II Reading	157.0 ³	NCR > CR	.13	60	26.2	37.8
		MAT Total + STEP Read.	141.8 ³	NCR > CR	.12	155	80.6	110.0
		Attitude Toward Reading	58.5 ³	CR > NCR	.05	25	-0.51	-1.09

Table 22 (cont.)

Comparison	Criterion	F(1,1014)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means ⁷	
						1	2
Grade 6	NCR sep vs. MAT Word Knowledge	NS			50	40.3	41.3
	NCR comb, both in CR schools	NS			45	32.0	32.9
	MAT Reading	NS			95	72.3	74.2
	MAT Total	NS			60	37.8	38.6
	STEP II Reading	NS			155	110.0	112.8
	MAT Total + STEP Read.	NS					
	Attitude Toward Reading	F(1,1012)			25	-1.09	-1.13
All CR vs. NCR in NCR schools	MAT Word Knowledge	69.2 ³	NCR > CR	.06	50	31.7	40.8
	MAT Reading	80.6 ³	NCR > CR	.07	45	24.0	32.5
	MAT Total	77.8 ³	NCR > CR	.07	95	55.8	73.3
	STEP II Reading	98.5 ³	NCR > CR	.09	60	27.0	38.3
	MAT Total + STEP Read.	88.7 ³	NCR > CR	.08	155	82.9	111.7
	Attitude Toward Reading	F(1,1012)			25	-0.42	-1.06
CR schools vs. NCR schools	MAT Word Knowledge	18.5 ³	NCR > CR	.02	50	36.3	40.8
	MAT Reading	21.4 ³	NCR > CR	.02	45	28.2	32.5
	MAT Total	20.7 ³	NCR > CR	.02	95	64.5	73.3
	STEP II Reading	26.7 ³	NCR > CR	.03	60	32.6	38.3
	MAT Total + STEP Read.	23.9 ³	NCR > CR	.02	155	97.1	111.7
	Attitude Toward Reading	F(1,1012)			25	-0.72	-0.97

Table 22 (cont.)

Grade 6

Comparison	Criterion	F(2,1014)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means ⁷	
						1 ⁴	2
All CR vs. all NCR, both in CR schools	MAT Word Knowledge	163.9 ³	NCR > CR	.24	50	31.7	41.0
	MAT Reading	193.6 ³	NCR > CR	.28	45	24.0	32.7
	MAT Total	186.1 ³	NCR > CR	.27	95	55.8	73.7
	STEP II Reading	230.1 ³	NCR > CR	.31	60	27.0	38.3
	MAT Total + STEP Read.	209.6 ³	NCR > CR	.29	155	82.9	112.0
Attitude Toward Reading		F(2,1012)					
		140.7 ³	CR > NCR	.32	25	-0.42	-1.13
All CR vs. all NCR ⁶	MAT Word Knowledge	115.8 ³	NCR > CR	.26	50	31.7	41.0
	MAT Reading	136.7 ³	NCR > CR	.29	45	24.0	32.7
	MAT Total	131.4 ³	NCR > CR	.28	95	55.8	73.6
	STEP II Reading	162.8 ³	NCR > CR	.33	60	27.0	38.3
	MAT Total + STEP Read.	162.8 ³	NCR > CR	.33	155	82.9	112.0
Attitude Toward Reading		F(3,1012)					
		97.3 ³	CR > NCR	.22	25	-0.42	-1.12
1.05 level			2.01 level		3.001 level		

⁴"1" indicates the first group mentioned in the "comparison" column, "2" indicates the second. E.g., for the first listed comparison, "1" refers to CR sep. and "2" refers to CR comb.

⁵This comparison was analyzed as a joint test of the following two comparisons: CR combined vs. NCR combined, both in CR schools; CR separate vs. NCR separate, both in CR schools. The means shown are those of the comparison groups, although the joint test is not a direct test of the difference between them.

⁶This comparison was analyzed as a joint test of the following three comparisons: CR combined vs. NCR combined, both in CR schools; CR separate vs. NCR separate, both in CR schools; all CR vs. NCR in NCR schools. The means shown are those of the comparison groups, although the joint test is not a direct test of the difference between them.

⁷Attitude means are expressed in terms of the Rasch scale (see p. 57).

grade 2 and grades 4 and 6. If the existence of such an interaction is not held to be likely, then it would seem that CR students, although falling further and further behind in reading achievement as they progress upward through the grades (see Tables 22A and 22B), are by grade 4 relatively more positive in their attitudes toward reading than their NCR peers.

The extent of reading achievement retardation of compensatory reading students, in terms of pretest and posttest scores, was of special interest. Tables 23A and 23B show study sample pretest and posttest means, means of the publishers' norms groups, the difference between the two sets of means expressed in standard deviation units, and the grade level equivalents for pretest and posttest scores. These results are presented by funding category.

As mentioned in the "Test Characteristics" section of this report, the test battery was selected in such a way as to maximize the range of grade level appropriateness. In certain instances, this resulted in the intentional administration of test forms to groups at grade levels higher than those for which they were intended. In these instances, of course, no norms are available or reported in Tables 23A and 23B. Thus, there are no sixth grade norms for MAT Word Knowledge, MAT Reading (and MAT Total), since the form of these tests administered (Elementary) is not intended for sixth graders and not normed at the sixth grade level. Reference to the tables shows, where an estimate can be made, that compensatory reading students seem to lag approximately 1 to 1 1/4 standard deviations behind national norms. There also appears to be a steady decline across the grade levels in the pretest standing of the CR group. Deviations below the average are seen to be approximately 1/4, 1, and 1 3/4 years at the beginning of grades 2, 4, and 6 respectively.

Examination of Table 23A also reveals that, at all grade levels and for all subtests, CR students in Total Title I schools tend to have the lowest pretest scores, followed in increasing order by students in Non-Title I schools and Partial Title I schools. The picture for NCR students is somewhat different, with the lowest pretest means still associated with Total Title I schools, but virtually no systematic

Table 23A
Pretest Reading Achievement of Compensatory and Non-Compensatory Reading Students, By Funding
Category, As Compared to National Norms

Test or Subtest	School Category	Grade 1		Study Sample		Total Sample		Diff. in S.D. Units			Grade Level	
		Raw Score Mean or Median	Norms 1	CR	MCR	Raw Score S.D.	Norms 2	CR	MCR	Mean	CR	MCR
MAT Word Knowledge	Total Title I	29.3	29.3	20.7	27.0	8.2		-1.01	-0.24		1.73	2.22
	Partial Title I	29.3	29.3	23.1	29.9	8.2		-0.72	0.11		1.90	2.54
	Non-Title I	29.3	29.3	22.0	30.1	8.2		-0.85	0.13		1.79	2.54
	Unknown Funding Category	29.3	29.3	22.0	29.0	8.2		-0.85	.00		1.82	2.43
	Total of above	29.3	29.3	21.6	28.5	8.2		-0.90	-0.06		1.79	2.38
	MCR Schools	29.3	29.3		27.0	8.2			-0.24			2.21
MAT Reading	Total Title I	30.3	30.3	17.7	26.0	11.0		-1.12	-0.35		1.66	2.13
	Partial Title I	30.3	30.3	20.6	30.8	11.0		-0.85	0.07		1.81	2.47
	Non-Title I	30.3	30.3	18.6	30.2	11.0		-1.04	0.02		1.69	2.44
	Unknown Funding Category	30.3	30.3	19.1	28.9	11.0		-0.99	-0.10		1.74	2.35
	Total of above	30.3	30.3	18.7	28.2	11.0		-1.03	-0.16		1.71	2.30
	MCR Schools	30.3	30.3		26.2	11.0			-0.35			2.19
MAT Total	Total Title I	29.3	29.3	38.5	53.0	18.1		-1.02	-0.45		1.71	2.16
	Partial Title I	58.3	58.3	43.7	60.7	18.1		-0.79	0.15		1.85	2.48
	Non-Title I	58.3	58.3	40.6	60.3	18.1		-0.96	0.13		1.75	2.45
	Unknown Funding Category	58.3	58.3	41.1	57.9	18.1		-0.93	-0.01		1.79	2.36
	Total of above	58.3	58.3	40.3	56.7	18.1		-0.98	-0.07		1.76	2.31
	MCR Schools	58.3	58.3		53.3	18.1			-0.26			2.21

Table 23A (cont.)

Grade 2 (cont.)

Test or Subtest	School Category	Norms ¹ Raw Score Mean or Median	Study Sample		Total Sample Raw Score S.D.	Diff. in S.D. Units Between Sample ² and Norms Means		Grade Level Equivalent Mean	
			CR	MCR		CR	MCR	CR	MCR
Cooperative Reading	Total Title I	27.9	19.1	26.5	10.6	-0.83	-0.13		
	Partial Title I	27.9	21.8	30.9	10.6	-0.57	0.28		
	Non-Title I	27.9	19.8	30.8	10.6	-0.76	0.25		
	Unknown Funding Category	27.9	20.2	29.3	10.6	-0.73	0.15		
	Total of above	27.9	19.1	28.7	10.6	-0.83	0.08		
	MCR Schools	27.9		26.8	10.6	-0.10			
MAT Word Knowledge	Total Title I	35.5 ⁴	20.1	31.9	12.5	-1.23	-0.29	2.90	4.15
	Partial Title I	35.5 ⁴	24.4	36.7	12.5	-0.89	0.10	3.34	4.86
	Non-Title I	35.5 ⁴	21.9	37.3	12.5	-1.09	0.14	3.02	4.82
	Unknown Funding Category	35.5 ⁴	23.1	34.4	12.5	-0.99	-0.09	3.16	4.52
	Total of above	35.5 ⁴	21.9	34.1	12.5	-1.09	-0.11	3.10	4.46
	MCR Schools	35.5 ⁴		31.5	12.5	-0.32		4.18	
MAT Reading	Total Title I	27 ⁴	16.5	24.8	9.8	-1.07	-0.22	2.75	4.03
	Partial Title I	27 ⁴	19.3	28.5	9.8	-0.79	0.15	3.17	4.73
	Non-Title I	27 ⁴	17.4	28.8	9.8	-0.98	0.18	2.90	4.70
	Unknown Funding Category	27 ⁴	18.2	26.9	9.8	-0.89	-0.01	2.98	4.43
	Total of above	27 ⁴	17.5	26.6	9.8	-0.97	-0.04	2.90	4.36
	MCR Schools	27 ⁴		24.9	9.8	-0.21		4.11	
MAT Total	Total Title I	63 ⁴	36.6	56.7	21.5	-1.23	-0.29	2.77	4.04
	Partial Title I	63 ⁴	43.7	55.2	21.5	-0.90	0.10	3.21	4.75
	Non-Title I	63 ⁴	39.3	56.0	21.5	-1.10	0.14	2.90	4.71

Table 23A (cont.)

Grade 4 (cont.)

Test or Subtest	School Category	Norms ¹ Raw Score Mean or Median	Study Sample		Total Sample Raw Score S.D.	Diff. in S.D. Units Between Sample ² and Norms Means ³		Grade Level Equivalent	
			CR	MCR		CR	MCR	CR	MCR
MAT Total (cont.)	Unknown Funding Category	63 ⁴	41.3	61.4	21.5	-1.01	-0.07	3.03	4.42
	Total of above	63 ⁴	39.3	60.7	21.5	-1.10	-0.12	2.93	4.36
	MCR Schools	63 ⁴		56.5	21.5		-0.30		4.10
	Total Title I	34.5 ⁵	25.8	34.7	9.5	-0.92	0.02		
	Partial Title I	34.5 ⁵	29.4	38.3	9.5	-0.54	0.40		
Cooperative Reading	Non-Title I	34.5 ⁵	27.2	38.6	9.5	-0.77	0.43		
	Unknown Funding Category	34.5 ⁵	28.4	36.5	9.5	-0.64	0.21		
	Total of above	34.5 ⁵	27.3	36.3	9.5	-0.76	0.19		
	MCR Schools	34.5 ⁵		34.3	9.5		-0.02		
	Total Title I		31.3	51.4	10.6			4.24	6.03
MAT Word Knowledge	Partial Title I		34.7	42.4	10.6			4.68	6.37
	Non-Title I		33.6	44.4	10.6			4.48	6.77
	Unknown Funding Category		34.2	42.2	10.6			4.60	6.30
	Total of above		32.8	42.3	10.6			4.43	6.31
	MCR Schools			41.3	10.6				6.13
MAT Reading	Total Title I		23.8	32.8	9.9			3.94	5.77
	Partial Title I		26.6	34.6	9.9			4.43	6.29
	Non-Title I		25.8	36.2	9.9			4.20	6.65
	Unknown Funding Category		25.6	33.7	9.9			4.22	6.05
	Total of above		24.9	33.9	9.9			4.11	6.08
	MCR Schools			33.0					5.90

Table 21A (cont.)
Grade 6 (cont.)

Test or Subtest	School Category	Norms ¹ Raw Score Mean or Median	Study Sample		Total Sample Raw Score S.D.	Diff. in S.D. Units Between Sample and Norms Means		Grade Level Equivalent Mean	
			CR	MCR		CR	MCR	CR	MCR
MAT Total	Total Title I		55.2	74.2	19.6			4.05	5.89
	Partial Title I		61.4	77.0	19.6			4.50	6.35
	Non-Title I		59.5	80.6	19.6			4.28	6.76
	Unknown Funding Category		59.7	75.9	19.6			4.35	6.18
	Total of above		57.8	76.2	19.6			4.22	6.20
STEP II Reading	MCR Schools			74.3	19.6				6.03
	Total Title I	39	27.2	38.5	12.4	-0.95	-0.04		
	Partial Title I	39	30.1	40.1	12.4	-0.72	0.09		
	Non-Title I	39	28.4	42.8	12.4	-0.05	0.34		
	Unknown Funding Category	39	28.7	39.8	12.4	-0.02	0.06		
	Total of above	39	28.1	40.0	12.4	-0.88	0.08		
	MCR Schools	39		38.8	12.4		-0.02		

¹Fall mean of the appropriate grade unless otherwise noted

²Difference is expressed in terms of total sample standard deviation

³Fall Grade 2 median

⁴Fall Grade 4 median

⁵Spring Grade 3 mean

Table 23B
Posttest Reading Achievement of Compensatory and Non-Compensatory Reading Students, By Funding
Category, As Compared to National Norms

Test or Subtest	School Category	Norms ¹		Study Sample		Total Sample		Diff. in S.D. Units		Grade Level	
		Raw Score Mean or Median		Raw Score Mean		Raw Score S.D.		Between Sample and Norms Means		Equivalent Mean	
		CR	MCR	CR	MCR	CR	MCR	CR	MCR	CR	MCR
MAT Word Knowledge	Total Title I	29 ³		28.7	32.1	5.7		-0.05	0.54	2.51	3.09
	Partial Title I	29 ³		30.2	33.5	5.7		0.21	0.79	2.68	3.42
	Non-Title I	29 ³		29.6	33.8	5.7		0.10	0.84	2.57	3.45
	Unknown Funding Category	29 ³		29.4	33.1	5.7		-0.07	0.72	2.60	3.29
	Total of above	29 ³		29.3	32.9	5.7		0.05	0.68	2.57	3.25
	MCR Schools	29 ³			32.2	5.7			0.56		3.11
MAT Reading	Total Title I	30 ³		29.5	35.9	9.0		-0.06	0.63	2.39	3.06
	Partial Title I	30 ³		32.6	38.8	9.0		0.29	0.97	2.63	3.48
	Non-Title I	30 ³		30.6	35.5	9.0		0.07	0.94	2.43	3.36
	Unknown Funding Category	30 ³		30.6	37.4	9.0		0.07	0.82	2.49	3.27
	Total of above	30 ³		30.4	37.1	9.0		0.04	0.76	2.42	3.22
	MCR Schools	30 ³			35.7	9.0			0.63		3.05
MAT Total	Total Title I	58 ³		58.2	68.0	14.1		0.01	0.71	2.40	3.05
	Partial Title I	58 ³		62.8	72.3	14.1		0.34	1.01	2.61	3.45
	Non-Title I	58 ³		60.2	72.3	14.1		0.16	1.01	2.45	3.37
	Unknown Funding Category	58 ³		60.0	70.5	14.1		0.13	0.89	2.50	3.25
	Total of above	58 ³		59.6	70.0	14.1		0.11	0.85	2.46	3.21
	MCR Schools	58 ³			67.8	14.1			0.69		3.05

Table 23B (cont.)

Grade 2 (cont.)

Test or Subtest	School Category	Norms ¹ Raw Score Mean or Median	Study Sample		Total Sample Raw Score	Diff. in S.D. Units Between Sample ₂ and Norms Means ²		Grade Level Equivalent Mean	
			CE	MCE		CE	MCE	CE	MCE
Cooperative Reading	Total Title I	27.9	30.1	37.2	9.9	0.22	0.94		
	Partial Title I	27.9	32.7	41.3	9.9	0.48	1.35		
	Non-Title I	27.9	30.8	41.2	9.9	0.29	1.34		
	Unknown Funding Category	27.9	31.0	39.4	9.9	0.31	1.16		
	Total of above	27.9	30.8	39.1	9.9	0.29	1.12		
	MCE Schools	27.9		37.1	9.9		0.93		
Grade 4 MAT Word Knowledge	Total Title I	35.5 ⁴	26.1	37.4	11.3	-0.83	0.17	3.48	5.06
	Partial Title I	35.5 ⁴	30.0	40.9	11.3	-0.49	0.48	4.03	5.76
	Non-Title I	35.5 ⁴	28.2	41.5	11.3	-0.64	0.53	3.67	5.73
	Unknown Funding Category	35.5 ⁴	29.4	39.0	11.3	-0.54	0.31	3.82	3.45
	Total of above	35.5 ⁴	27.9	39.0	11.3	-0.67	0.31	3.68	5.35
	MCE Schools	35.5 ⁴		36.8	11.3		0.11		5.03
MAT Word Knowledge	Total Title I	39.5 ⁶	26.1	37.4	11.3	-1.18	-0.19	3.48	5.06
	Partial Title I	39.5 ⁶	30.0	40.9	11.3	-0.84	0.12	4.03	5.76
	Non-Title I	39.5 ⁶	28.2	41.5	11.3	-1.00	0.18	3.67	5.73
	Unknown Funding Category	39.5 ⁶	29.4	39.0	11.3	-0.89	-0.04	3.82	3.45
	Total of above	39.5 ⁶	27.9	39.0	11.3	-1.03	-0.04	3.61	5.35
	MCE Schools	39.5 ⁶		36.8	11.3		-0.23		5.03
MAT Reading	Total Title I	27 ⁴	20.7	29.6	9.8	-0.64	0.26	3.36	4.98
	Partial Title I	27 ⁴	24.1	33.3	9.8	-0.29	0.64	3.97	5.89
	Non-Title I	27 ⁴	22.1	33.4	9.8	-0.50	0.65	3.55	5.76

Table 238 (cont.)

Grade 4 (cont.)

Grade 4 (cont.)		Test or Subtest	School Category	Norms ¹ Raw Score Mean or Median	Study Sample		Total Sample Raw Score S.D.	Diff. in S.D. Units Between Sample ₂ and Norms Means ²		Grade Level Equivalent Mean	
MAT Reading (cont.)	CR				MCR	CR		MCR	CR	MCR	
		27 ⁴	22.8	31.3	9.8	-0.43	0.44	3.69	5.38		
		27 ⁴	28.0	35.7	9.8	0.10	0.88	4.73	6.63		
		27 ⁴		29.6	9.8		0.26		5.03		
		30.0 ⁶	20.7	29.6	9.8	-0.94	-0.04	3.38	4.98		
		30.0 ⁶	24.1	33.3	9.8	-0.66	0.33	3.97	5.89		
		30.0 ⁶	22.1	33.4	9.8	-0.80	0.35	3.55	5.76		
		30.0 ⁶	22.8	31.3	9.8	-0.73	0.13	3.69	5.38		
		30.0 ⁶	28.0	35.7	9.8	-0.20	0.58	4.73	6.63		
		30.0 ⁶		29.6	9.8		-0.04		5.03		
		63 ⁴	46.8	67.0	20.4	-0.79	0.20	3.37	4.97		
		63 ⁴	54.1	74.3	20.4	-0.44	0.55	3.95	5.84		
		63 ⁴	50.3	75.0	20.4	-0.62	0.59	3.57	5.71		
		63 ⁴	52.2	70.3	20.4	-0.53	0.36	3.70	5.37		
		63 ⁴	50.0	70.1	20.4	-0.64	0.35	3.57	5.32		
		63 ⁴		66.4	20.4		0.17		5.00		
		71.0 ⁶	46.8	67.0	20.4	-1.19	-0.20	3.37	4.97		
		71.0 ⁶	54.1	74.3	20.4	-0.83	0.16	3.95	5.84		
		71.0 ⁶	50.3	75.0	20.4	-1.01	0.20	3.57	5.71		
		71.0 ⁶	52.2	70.3	20.4	-0.92	-0.03	3.70	5.37		
		71.0 ⁶	50.0	70.1	20.4	-1.03	-0.04	3.57	5.32		
		71.0 ⁶		66.4	20.4		-0.23		5.00		

Table 23B (cont.)

Grade 4

Test or Subtest	School Category	Norms ¹ Raw Score Mean or Median	Study Sample		Total Sample Raw Score S.D.	Diff. in S.D. Units Between Sample and Norms Means		Grade Level Equivalent Mean	
			Raw Score Mean	MCR		CR	MCR	CR	MCR
Cooperative Reading	Total Title I	34.5 ⁵	32.2	39.9	8.2	-0.28	0.66		
	Partial Title I	34.5 ⁵	35.4	42.6	8.2	0.17	0.99		
	Non-Title I	34.5 ⁵	33.8	42.6	8.2	-0.09	0.99		
	Unknown Funding Category	34.5 ⁵	34.8	41.1	8.2	0.04	0.81		
	Total of above	34.5 ⁵	33.7	41.0	8.2	-0.10	0.79		
	MCR Schools	34.5 ⁵		39.4	8.2		0.60		
Grade 6 MAT Word Knowledge	Total Title I		34.8	43.3	9.4			4.75	6.65
	Partial Title I		38.3	44.2	9.4			5.36	7.12
	Non-Title I		36.7	45.9	9.4			5.04	7.49
	Unknown Funding Category		37.2	43.7	9.4			5.15	6.90
	Total of above		36.1	43.9	9.4			4.98	6.94
	MCR Schools			42.7	9.4				6.70
MAT Reading	Total Title I		26.7	35.1	9.3			4.50	6.40
	Partial Title I		30.1	36.1	9.3			5.18	6.81
	Non-Title I		28.7	37.6	9.3			4.83	7.11
	Unknown Funding Category		28.9	35.5	9.3			4.88	6.57
	Total of above		28.0	35.7	9.3			4.73	6.63
	MCR Schools			34.8	9.3				6.41

Table 23B (cont.)
Grade 6

Test or Subtest	School Category	Norms ¹ Raw Score Mean or Median	Study Sample		Total Sample Raw Score S.D.	Diff. in S.D. Units Between Sample ₂ and Norms Means ²		Grade Level Equivalent	
			CR	MCR		CR	MCR	CR	Mean
MAT Total	Total Title I		61.6	78.3	17.9			4.57	6.56
	Partial Title I		63.4	80.3	17.9			5.23	7.04
	Non-Title I		65.4	83.5	17.9			4.87	7.37
	Unknown Funding Category		66.0	79.2	17.9			4.95	6.78
	Total of above		64.2	79.7	17.9			4.80	6.83
STEP II Reading	NCR Schools			77.5	17.9				6.59
	Total Title I	39	30.0	41.1	11.9	-0.76	0.18		
	Partial Title I	39	33.8	43.4	11.9	-0.44	0.37		
	Non-Title I	39	32.1	45.3	11.9	-0.58	0.53		
	Unknown Funding Category	39	32.7	42.2	11.9	-0.53	0.27		
	Total of above	39	31.5	42.5	11.9	-0.63	0.29		
	NCR Schools	39		41.1	11.9		0.18		

¹Fall mean of the appropriate grade unless otherwise noted

²Difference is expressed in terms of total sample standard deviation

³Fall Grade 2 median

⁴Fall Grade 4 median

⁵Spring Grade 3 mean

⁶Spring Grade 4 median

difference between Partial Title I and Non-Title I schools. Interestingly enough, pretest means for NCR students in CR and NCR schools are very similar, thus strengthening the choice of NCR schools as an appropriate comparison group for this study. If pretest achievement score is considered a valid index of educational need, then it would seem that the data of Table 23A suggest that, at least with respect to Total Title I schools, federal funding is being channeled to those schools having students with the greatest educational need.

A related question of interest is the degree to which compensatory reading students score lower on tests of reading achievement than do non-compensatory reading students in the same schools. Means for compensatory and non-compensatory students in each Phase II CR school were computed, and the difference for each school expressed in standard deviation units. For all tests and grade levels, the average difference across CR schools was approximately one standard deviation.

Pretest reading achievement in high and low socioeconomic schools.
The distribution of SES index scores (see "Addendum to the Phase I Report, p. 8) was examined, and the index value "1.00" was selected as an appropriate dividing point between "high" and "low" SES schools. Distributions of pretest reading achievement scores for each of these two school groups were produced. Those raw scores closest to the 10th and 25th percentiles of the high SES school distribution were determined, and the percentile ranks of these raw scores in the low SES school distribution were identified. Table 24 shows the results of these analyses.

Inspection of Table 24 shows that, for the Total group, the pretest reading achievement overlap is rather constant across grade levels and across tests and subtests. In general, the 25th and 10th percentiles in high SES schools correspond approximately to the 50th and 30th percentiles in low SES schools. Thus if a high SES school cutting score in this portion of the score distribution were applied to students in low SES schools, approximately 20%-25% more students would be included in the low SES school compensatory reading classes. Examination

Table 24
Reading Achievement Pretest Overlap Between High and Low Socioeconomic Status Schools

Grade 2		TOTAL TITLE I FUNDING				
Test	High SES %ile	Low SES %ile	Corresponding Raw Score	High SES %ile	Low SES %ile	Corresponding Raw Score
Cooperative Reading	24.6	42.0	18	10.1	16.2	13
MAT Word Knowledge	24.4	52.9	24	9.1	35.3	19
MAT Sentences	28.2	53.1	7	8.2	22.6	4
MAT Stories	20.9	48.2	11	9.3	20.9	7
MAT Reading	26.5	53.0	18	9.8	27.1	13
MAT Total	25.1	54.0	42	10.8	35.1	34
Battery Total	25.0	51.3	60	9.8	31.6	49
		PARTIAL TITLE I FUNDING				
Cooperative Reading	24.4	53.2	21	9.7	24.9	16
MAT Word Knowledge	23.3	53.7	26	9.1	35.5	21
MAT Sentences	25.6	54.3	8	9.6	31.3	5
MAT Stories	25.4	49.8	12	9.4	22.9	8
MAT Reading	25.8	52.4	20	10.5	33.0	15
MAT Total	24.5	54.1	46	9.6	37.6	38
Battery Total	25.3	53.9	68	10.0	38.3	57
		NO TITLE I FUNDING				
Cooperative Reading	23.5	48.9	21	9.7	28.9	17
MAT Word Knowledge	25.1	52.0	27	10.5	33.7	22
MAT Sentences	27.3	53.2	8	10.9	27.6	5
MAT Stories	22.9	41.0	11	10.3	21.3	8

Table 24 (cont.)

Grade 2 (cont.)

Test	High SES	Low SES	Corresponding	High SES	Low SES	Corresponding
	%ile	%ile	Raw Score	%ile	%ile	Raw Score
MAT Reading	26.2	50.1	20	9.3	25.2	14
MAT Total	25.5	51.0	47	10.3	34.6	38
Battery Total	25.0	51.7	69	9.8	34.1	56
FUNDING UNCLASSIFIABLE						
Cooperative Reading	25.8	45.3	20	10.6	25.0	16
MAT Word Knowledge	25.2	46.3	25	9.4	25.8	19
MAT Sentences	23.8	44.8	7	11.5	27.0	5
MAT Stories	23.8	42.1	11	10.7	21.4	8
MAT Reading	25.4	47.2	19	10.4	23.5	14
MAT Total	25.0	47.1	44	10.1	28.3	35
Battery Total	24.7	47.4	64	9.8	28.1	52
TOTAL						
Cooperative Reading	25.2	48.9	20	11.6	26.9	16
MAT Word Knowledge	27.4	54.6	26	10.3	33.1	20
MAT Sentences	24.0	49.2	7	11.4	30.3	5
MAT Stories	24.0	44.6	11	10.7	25.0	8
MAT Reading	25.7	51.7	19	10.4	28.1	14
MAT Total	25.8	53.8	45	10.7	35.2	36
Battery Total	25.3	53.1	65	10.6	34.1	54

Table 24 (cont.)

Grade 4

Test	TOTAL TITLE I				Corresponding Raw Score	High SES %ile	Low SES %ile	High SES %ile	Low SES %ile	Corresponding Raw Score
	High SES %ile	Low SES %ile	Corresponding Raw Score	High SES %ile						
Cooperative Reading	25.3	57.2	31	9.7	33.5	24				
MAT Word Knowledge	25.6	61.6	29	10.0	38.7	19				
MAT Reading	26.1	57.0	20	10.1	28.9	13				
MAT Total	24.6	59.9	49	10.0	35.7	32				
Battery Total	24.9	59.1	81	10.0	36.4	58				
PARTIAL TITLE I FUNDING										
Cooperative Reading	25.0	50.6	32	9.3	25.7	24				
MAT Word Knowledge	25.9	56.6	30	9.5	31.0	18				
MAT Reading	24.6	50.3	20	10.1	24.3	13				
MAT Total	25.7	55.1	51	10.2	30.1	33				
Battery Total	24.6	54.8	84	10.3	31.5	60				
NO TITLE I FUNDING										
Cooperative Reading	26.2	46.1	32	9.3	27.7	26				
MAT Word Knowledge	24.5	46.7	29	9.6	25.4	19				
MAT Reading	24.8	42.2	20	9.5	23.1	14				
MAT Total	24.5	44.1	49	10.0	27.0	36				
Battery Total	25.2	46.1	83	10.2	28.9	64				
FUNDING UNCLASSIFIABLE										
Cooperative Reading	25.8	44.5	31	9.3	22.3	24				
MAT Word Knowledge	25.4	47.3	28	10.0	23.7	17				
MAT Reading	24.3	46.1	20	12.2	29.0	15				
MAT Total	25.0	46.9	49	10.0	26.3	33				
Battery Total	25.3	47.5	81	10.0	26.2	59				

Table 24 (cont.)

Grade 4 (cont.)

Test	TOTAL			
	High SES %ile	Low SES %ile	Corresponding Raw Score	Corresponding Raw Score
Cooperative Reading	25.0	50.6	31	25
MAT Word Knowledge	24.5	54.1	28	18
MAT Reading	24.5	50.9	20	14
MAT Total	24.9	53.0	49	33
Battery Total	25.2	53.6	82	59
Grade 6				
STEP Reading	25.1	55.1	33	26
MAT Word Knowledge	25.8	57.6	41	31
MAT Reading	25.1	56.9	30	21
MAT Total	25.0	56.8	71	53
Battery Total	25.8	57.4	105	81
PARTIAL TITLE I				
STEP Reading	25.3	53.6	34	24
MAT Word Knowledge	24.8	51.7	41	33
MAT Reading	26.2	52.1	31	21
MAT Total	24.7	51.3	72	57
Battery Total	24.9	51.3	106	81
NO TITLE I				
STEP Reading	24.6	48.4	34	26
MAT Word Knowledge	24.8	49.8	42	35
MAT Reading	25.6	50.7	32	24

Table 24 (cont.)

Grade 6 (cont.)

Grade 6 (cont.)	NO TITLE I (cont.)							
Test	High SES %ile	Low SES %ile	Corresponding Raw Score	High SES %ile	Low Ses %ile	Corresponding Raw Score	High SES %ile	Corresponding Raw Score
MAT Total	25.2	52.3	75	9.8	31.3	61		
Battery Total	25.2	51.5	110	10.2	32.0	90		
FUNDING UNCLASSIFIABLE								
STEP Reading	26.0	48.9	34	9.4	27.2	26		
MAT Word Knowledge	23.5	45.9	41	10.1	29.6	35		
MAT Reading	26.0	48.7	31	9.8	27.3	23		
MAT Total	25.6	49.1	73	10.3	30.3	60		
Battery Total	24.7	48.6	107	10.0	30.2	88		
TOTAL								
STEP Reading	23.6	50.6	33	9.8	32.0	26		
MAT Word Knowledge	23.3	50.7	41	9.3	33.6	34		
MAT Reading	25.5	53.2	31	10.7	31.1	23		
MAT Total	25.4	53.7	73	10.2	33.7	59		
Battery Total	24.6	53.0	107	10.2	38.0	87		

of the funding category subgroups shows essentially the same picture, although the Total Title I group at the sixth grade level does seem to show a somewhat larger difference between high and low SES schools.

Relationship of CR student exposure to reading instruction and economic disadvantage and ethnicity. Analyses of variance were performed separately on two dependent variables, each with the effect of the school mean removed: (a) days present per school year in a reading class period (regardless of its length), and (b) total minutes present per school year in reading instruction (regardless of the number of class periods). Factors included in the analysis were an index of student economic disadvantage derived from the Student Questionnaire (student does or does not participate in the free lunch program), and student ethnicity (Caucasian or White, Negro or Black, Spanish surnamed, Oriental, American Indian, or Other), also derived from the Student Questionnaire. Tables 25A and 25B show the results of these analyses.

The analysis shown in Table 25A was performed on criterion scores from which the effect of the school mean had been removed, and reference to Table 25A reveals that, using this form of the criterion measures, none of the economic disadvantage x ethnicity interactions is significant. Parallel analyses were performed without the school mean effects removed, and it is interesting to note that in these analyses interactions for "grade 2, days present," "grade 2, minutes present," "grade 4, minutes present," "grade 6, days present," and "grade 6, minutes present" were significant. Thus it seems that the relationship between economic disadvantage and ethnicity is largely a result of differences among schools rather than within schools. Table 25B shows the group means associated with these analyses.

No economic disadvantage main effects were significant on either criterion variable at any grade level. Examination of the effects for the levels of the ethnicity factor shows that in grade 2, Negro or Black, Spanish surnamed, and American Indian students were relatively high in terms of the "minutes present" criterion. In grade 6, White or Caucasian, Negro or Black, Spanish surnamed, and Other students were relatively high on both the "days present" and "minutes present" criteria.

Table 25A

CR Student Exposure to Reading Treatment and Its Relationship to Student
Economic Disadvantage and Ethnicity: Significance Tests

Grade 2

<u>Criterion</u>	<u>Factor</u>	<u>F</u>	<u>D.F.</u>	<u>Proportion of Variance Explained by Comparison</u>
Days present	Econ. Disadvantage	NS	(1;5,438)	.01
	Ethnicity	4.3 ³	(5;5,438)	
	Interaction	NS	(5;5,433)	
Minutes present	Econ. Disadvantage	NS	(1;5,438)	
	Ethnicity	NS	(5;5,438)	
	Interaction	NS	(5;5,433)	

Grade 4

Days present	Econ. Disadvantage	NS	(1;5,075)
	Ethnicity	NS	(5;5,075)
	Interaction	NS	(5;5,070)
Minutes present	Econ. Disadvantage	NS	(1;5,075)
	Ethnicity	NS	(5;5,075)
	Interaction	NS	(5;5,070)

Grade 6

Days present	Econ. Disadvantage	NS	(1;4,516)	.01
	Ethnicity	10.5 ³	(5;4,516)	
	Interaction	NS	(5;4,511)	
Minutes present	Econ. Disadvantage	NS	(1;4,516)	<.01
	Ethnicity	2.8 ¹	(5;4,516)	
	Interaction	NS	(5;4,511)	

¹.05 level

².01 level

³.001 level

Table 25B
CR Student Exposure to Reading Treatment and Its Relationship to Student Economic Disadvantage and Ethnicity:
Group Means

Criterion	Group	Grade 2			Grade 4			Grade 6		
		N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
Days present	Low SES	2,949	133.2	47.5	3,034	129.7	47.0	2,506	123.2	44.0
	High SES	2,496	136.5	46.0	2,048	131.7	38.0	2,017	125.9	33.0
	Caucasian or white	3,445	137.3	49.0	3,128	133.0	43.0	2,722	126.6	38.2
	Negro or black	1,357	136.4	44.2	1,332	129.2	44.0	1,168	124.6	44.5
	Spanish surnamed	557	117.1	33.9	533	122.5	44.5	509	116.4	32.3
	Oriental	12	124.3	19.4	8	103.0	37.0	9	85.0	54.0
	American Indian	55	121.9	43.2	66	115.3	41.6	54	94.9	32.1
	Other	19	103.2	46.6	15	101.1	59.1	61	124.3	29.5
	Low SES	2,949	5021.6	4169.7	3,034	5046.9	3386.8	2,506	4988.6	3262.6
	High SES	2,496	4781.2	4257.9	2,048	4866.1	3177.4	2,017	4582.5	2691.5
Minutes present	Caucasian or white	3,445	4590.3	4110.8	3,128	4898.5	3372.6	2,722	4676.2	2761.7
	Negro or black	1,357	5562.8	4653.9	1,332	4974.5	3159.6	1,168	5106.5	3727.4
	Spanish surnamed	557	5164.1	3439.5	533	5496.9	3314.6	509	4946.7	2589.7
	Oriental	12	3687.4	1158.6	8	4942.3	2524.8	9	3124.7	2768.8
	American Indian	55	7145.3	4128.2	66	4623.7	2538.4	54	3067.8	2202.7
	Other	19	3512.7	2884.3	15	3670.2	2731.9	61	5565.9	2404.1

The "days present" criterion showed significant differences on the ethnicity factor at all grade levels. Examination of the effects for the six ethnicity categories revealed a somewhat inconsistent pattern across grade levels, except that the Negro or Black category received relatively high exposure to reading instruction at each grade level, and the American Indian category consistently received relatively low exposure.

Relationship of student exposure to reading treatment and CR/NCR grouping and funding source. Analyses of variance were performed separately on the dependent variables (a) days present and (b) total minutes present described in the previous section. Factors included in the analysis were CR/NCR grouping (two sets of comparisons; Set I: CR separate vs. CR combined, CR separate vs. NCR separate, CR combined vs. NCR combined; Set II: NCR separate vs. NCR combined, CR separate vs. NCR separate, CR combined vs. NCR combined), and funding source (Total Title I vs. Partial Title I, average of Total and Partial Title I vs. Non-Title I, and CR schools vs. NCR schools). The school mean was the unit of analysis. Tables 26A and 26B show the results (values shown in Table 26A were identical for both sets of CR/NCR grouping comparisons).

Relationship of student exposure to reading treatment and reading achievement pretest score. The total reading score (Cooperative Reading + MAT Total at grades 2 and 4; STEP II Reading + MAT Total at grade 6) was correlated with total minutes present per school year in reading instruction. Correlations were computed separately by grade for the following student groups:

1. CR students in a separate class, in a CR school
2. NCR students in a separate class, in a CR school
3. CR students in a mixed class, in a CR school
4. NCR students in a mixed class, in a CR school
5. NCR students in an NCR school

Table 26A

Student Exposure to Reading Treatment and Its Relationship to CR/NCR
Grouping and Funding Source: Significance Tests

Grade 2

<u>Criterion</u>	<u>Factor</u>	<u>F</u>	<u>D.F.</u>	<u>Proportion of Variance Explained by Comparison</u>
Days present	CR/NCR grouping	10.8 ³	(3;439)	.07
	Funding source	NS		
	Interaction	NS		
Minutes present	CR/NCR grouping	NS		
	Funding source	NS		
	Interaction	NS		

Grade 4

Days present	CR/NCR grouping	11.2 ³	(3;423)	.07
	Funding source	NS		
	Interaction	NS		
Minutes present	CR/NCR grouping	NS		.02
	Funding source	3.5 ¹	(3;423)	
	Interaction	NS		

Grade 6

Days present	CR/NCR grouping	3.0 ¹	(3;368)	.02
	Funding source	NS		
	Interaction	NS		
Minutes present	CR/NCR grouping	NS		.02
	Funding source	3.1 ¹	(3;368)	
	Interaction	NS		

¹.05 level

².01 level

³.001 level

Table 26B
Student Exposure to Reading Treatment and Its Relationship to CR/NCR Grouping and Funding
Source: Group Means

Criterion	Group	Grade 2			Grade 4			Grade 6		
		N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
Days present	CR separate	60	123.2	35.7	61	116.3	25.1	53	116.2	23.1
	NCR separate	46	122.5	15.5	49	124.8	11.1	62	123.5	15.7
	CR combined	170	142.4	51.7	160	141.4	54.7	130	130.3	48.2
	NCR combined	170	121.3	15.2	160	121.3	19.2	130	122.5	20.9
	Total Title I	182	127.6	44.0	172	132.6	45.2	142	127.3	38.1
Minutes present	Partial Title I	38	128.5	34.8	44	131.2	28.5	39	123.8	30.1
	Non-Title I	56	130.1	26.2	53	128.7	22.1	49	130.9	26.2
	NCR Schools	170	127.0	36.5	161	123.8	35.9	145	119.7	34.9
Minutes present	CR separate	60	4769.5	3325.2	61	4852.9	2592.0	53	4563.3	2170.9
	NCR separate	46	4535.8	2881.4	49	5094.2	2607.1	62	4685.6	2038.5
	CR combined	170	4654.6	3230.5	160	4676.4	2918.3	130	4625.3	2487.9
	NCR combined	170	4141.6	2780.4	160	4300.3	2320.1	130	4620.2	2055.2
	Total Title I	182	4605.6	3160.5	172	4523.4	2548.5	142	4295.8	2329.8
Minutes present	Partial Title I	38	4101.8	2947.7	44	4727.4	2557.2	39	4388.8	2188.8
	Non-Title I	56	4478.1	2799.8	53	5619.8	2601.8	49	5352.9	1624.9
	NCR Schools	170	4384.2	3033.8	161	4335.7	2581.9	145	4764.2	2239.0

With one exception, all obtained correlations were between $-.10$ and $+.10$ (all N 's > 1000), indicating virtually no relationship between a student's pretest reading achievement level and his total exposure to reading instruction during the ensuing school year. Examination of scatterplots revealed no curvilinear relationships. The one correlation of note was $+.20$ ($N = 1528$) for NCR students in separate classes in grade 2.

Relationship of achievement pretest CR/NCR overlap and school characteristics. The overlap measure indicates the extent to which placement and selection procedures within schools result in large reading achievement level differences between compensatory and non-compensatory student groups. The particular measure of overlap used in this analysis is defined as the difference in percentile rank of a given Total Achievement (MAT Total + Cooperative Reading in grades 2 and 4; MAT Total + STEP Reading in grade 6) raw score in the CR and NCR within-school populations. The raw score selected for this computation was, separately for each grade level, that school falling nearest the 25th percentile in the CR score distribution. Reference to Tables 26A and 26B show significant days present differences among CR/NCR groups at all three grade levels, largely as a result of the consistently high means for the "CR combined" group and low means for the "CR separate" group. In terms of the "minutes present" criterion, significant differences among funding categories at the fourth and sixth grade levels seem to be due to large means in the Non-Title I schools. At each grade level, the measure of overlap was correlated with various school characteristics items appearing in the School Questionnaire. Because of the way in which it is computed, high values of the overlap measure actually reflect a low degree of overlap. For example, suppose that the 25th percentile score for the NCR group in a particular school were 42, and that this score corresponded to a percentile rank of 67 in the CR score distribution for that school. The overlap index for that school would be $67 - 25 = 42$. In the correlations reported in Table 26 below, the signs have been reversed so that a positive correlation indicates a positive relationship with the true meaning of the term "overlap" rather than with the above described measure. The correlations selected for presentation are those whose absolute value equals or exceeds $.20$.

Table 27

Correlations of School Characteristics and CR/NCR Overlap

<u>School Characteristics</u>	<u>Grade Level of Overlap Measure</u>	<u>r</u>	<u>N*</u>
Percent of total student body that moved from school attendance area the previous year	2	.24	148
Estimated percentage of pupils from families of migrant workers	4	.23	147
Estimated percentage of pupils whose families receive public assistance	2	.38	150
Estimated percentage of Caucasian or White students	2	-.44	150
Estimated percentage of Negro or Black students	2	.34	149
	4	.23	147
Estimated percentage of Oriental students	4	.20	147
Estimated percentage of "Other" students	2	.51	35
	4	.22	34
	6	-.24	20
Estimated percentage of grade 2 students reading one or more years below grade level	2	.25	146
Estimated percentage of grade 4 students reading one or more years below grade level	2	.28	140
Estimated percentage of grade 6 students reading one or more years below grade level	2	.31	114
Total funds allocated for compensatory reading in the school	2	.38	37
Costs per pupil of compensatory reading in the school	2	-.30	35
Number of regular classroom teachers who, since June 1972, have participated in in-service training activities to prepare them for teaching in a compensatory reading program for elementary students	2	.35	98
Number of school-located reading specialists who, since June 1972, have participated in in-service training activities to prepare them for teaching in a compensatory reading program for elementary students	2	.30	84
	6	.22	59
Number of school district reading specialists who, since June 1972, have participated in in-service training activities to prepare them for teaching in a compensatory reading program for elementary students	6	.27	42

Table 27 (cont.)

<u>School Characteristics</u>	Grade Level of Overlap		
	<u>Measure</u>	<u>r</u>	<u>N*</u>
Number of school personnel other than the (three) above who, since June 1972, have par- ticipated in in-service training activities to prepare them for teaching in a compensatory reading program for elementary students	2	.41	53
	6	.41	39
School socioeconomic status	2	-.37	150
Teacher variable #2 (teacher satisfaction with his or her administration)	2	-.26	141

*Variability of N's is due to differential response rates to Questionnaire items.

Examination of Table 27 suggests that the negative relationship of overlap with socioeconomic status (i.e., the more nearly alike in reading achievement the CR and NCR students, the lower the school SES) is consistent with the entire set of reported correlations. This seems consistent with the hypothesis that in low SES schools, where reading problems are widespread, those students who cannot be offered compensatory instruction are not markedly better with respect to reading achievement than those who are served by such programs.

Two other aspects of the overlap/school characteristics relationships are of interest. The overlap measures of grades 2 and 4 and grades 4 and 6 are moderately correlated ($r = .26$ and $r = .29$, respectively), but the measures for grades 2 and 6 are not ($r < .01$). A possible explanation of this result is that the practices or philosophies of schools in assigning students to compensatory reading instruction are quite different at grades 2 and 6, with grade 4 sharing enough of the characteristics of each to produce the obtained correlations. The overlap means (averaged across schools) for grades 2, 4, and 6 are 52.4, 60.5, and 56.1, respectively, indicating relative consistency across grade levels. These overlap means should be interpreted to indicate that, in grade 2 for example, the percentile rank of the 25th percentile NCR reading achievement score is 77.4 ($25 + 52.4$), on the average, in the various CR score distributions.

Outcome Differences Among Various Compensatory and Non-Compensatory Student Groups

Reading achievement and attitude toward reading differences. Reading instruction was provided to compensatory and non-compensatory students in a variety of settings in the Phase II sample. Each individual student was classified as compensatory reading (CR) or non-compensatory (NCR) by his classroom teacher. Schools were classified as CR if they offered reading instruction designed especially for CR students. Classes were classified as CR if they offered special reading instruction to one or more CR students. In order to assess the relative effectiveness of reading instruction in each of several settings, curvilinear analyses of covariance were carried out, separately by grade, using as dependent variables the various reading achievement subtests administered in Spring of 1972. Results of the univariate analyses of these subtests and their total are reported. Multivariate analyses were also performed, and gave the same results as the univariate analyses based on total score. However, the univariate analyses were considered to be more robust since they took account only of intra-test pre/post covariances. The purpose of introducing the squared covariance term was to produce a curvilinear regression line which better fit certain posttest/pretest scatterplots. The unit of analysis was the class mean, and comparisons among groups were the same as those described in the "Preexisting Differences Among Various Compensatory and Non-Compensatory Student Groups" section of this report. Results of the curvilinear covariance analyses based on these comparisons are presented in Table 28. It should be noted that the results of these covariance analyses can be interpreted in a clear, straightforward manner only when the regression curves are parallel. For each comparison shown in Table 28, a significance test of the parallelism of regression curves was performed, and those situations marked with an asterisk in which the hypothesis of parallel regression curves was rejected at the .05 level or less. The results are not meaningful when regression curves are not parallel. However, the reader is encouraged to consult the plots of the actual least squares regression curves presented in Appendix D and to make his own judgment regarding what limited interpretation might be garnered from the data.

Table 26
Gain in Reading Achievement and Attitude Toward Reading Among Various Compensatory and Non-Compensatory Student Groups

Grade 2	Comparison	Criterion	F(1,1277)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Score Means ⁹						Effectiveness	
							Pretest		Posttest		Est. Posttest		1	
							1 ⁴	2	1	2	1	2	1	2
Grade 2	CR sep vs. CR comb, both in CR schools	MAT Word Knowledge	NS			35	20.1	21.4	28.2	29.2	28.2	29.1	0.0	0.1
		MAT Sentences	18.1 ³	CR comb > CR sep	.01	13	6.7	6.6	10.0	10.5	10.4	10.4	-0.4	0.1
		MAT Stories	NS			29	11.4	11.4	18.9	19.5	20.0	19.8	-0.8	-0.4
		MAT Reading *	5.2 ¹	CR comb > CR sep	<.01	42	18.1	18.0	26.9	30.0	29.8	30.1	-0.9	-0.1
		MAT Total *	NS			77	38.3	39.4	57.1	59.2	57.4	59.0	-0.4	0.1
		Cooperative Reading *	NS			50	19.4	19.3	29.7	30.2	31.0	31.0	-1.1	-0.7
		MAT Total + Coop. Read. *	NS			127	57.9	58.7	86.9	89.5	88.0	89.4	-0.8	0.1
Grade 2	Attitude Toward Reading *		F(1,1265)	CR sep > CR comb	<.01	15	2.31	2.29	2.58	2.47	2.52	2.53	0.05	-0.05
	CR comb vs. MCR both in CR schools	MAT Word Knowledge	NS			35	21.4	28.1	29.2	32.7	29.1	32.5	0.1	0.2
		MAT Sentences	6.2 ²	MCR > CR	<.01	13	6.6	9.6	10.5	12.1	10.4	11.8	0.1	0.3
		MAT Stories *	33.2 ³	MCR > CR	.03	29	11.4	17.8	19.5	24.8	20.0	23.8	-0.4	1.0
		MAT Reading *	17.0 ³	MCR > CR	.01	42	18.0	27.4	30.0	35.7	30.1	35.7	-0.1	1.2
		MAT Total *	4.6 ¹	MCR > CR	<.01	77	39.4	55.5	59.2	68.5	59.0	68.5	0.1	1.1
		Cooperative Reading	36.4 ³	MCR > CR	.03	50	19.3	27.8	30.2	37.1	31.0	37.1	-0.7	1.4
		MAT Total + Coop. Read. *	7.2 ²	MCR > CR	<.01	127	58.7	83.3	89.5	106.1	89.4	106.1	0.1	2.0
	Attitude Toward Reading *		F(1,1265)	MCR > CR	<.01	15	2.29	2.55	2.47	2.66	2.53	2.60	-0.05	0.05
			7.4 ²											

Table 2B (cont.)

Grade 2

Comparison	Criterion	F(1,1277)	Direction of Difference	by Comparison		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CR sep vs. MAT Word Knowledge *	NS				35	20.1	27.0	28.2	31.6	28.2	31.9	0.0	-0.3							
MCR sep, MAT Sentences	5.2 ¹		MCR > CR	<.01	13	6.7	9.3	10.0	11.6	10.4	11.6	0.4	-0.0							
both in CR schools	NS				29	11.4	17.7	18.9	23.6	20.0	23.7	-0.8	-0.1							
	NS				42	18.1	27.0	28.9	35.2	29.8	35.4	-0.9	-0.2							
	NS				77	38.3	54.0	57.1	66.8	57.4	67.4	-0.4	-0.6							
	NS				50	19.4	27.9	29.7	37.0	31.0	37.2	-1.1	-0.2							
Cooperative Reading *	NS				127	57.9	82.0	86.9	103.8	88.0	104.9	-0.8	-1.1							
MAT Total + Coop. Read. *	NS																			
	F(1,1265)				15	2.31	2.54	2.58	2.60	2.52	2.60	0.05	0.00							
Attitude Toward Reading	NS																			
	F(1,1277)				35	27.0	28.1	31.6	32.7	31.9	32.5	0.3	0.2							
MCR sep vs. MAT Word Knowledge *	NS				13	9.3	9.6	11.6	12.1	11.6	11.8	-0.0	0.3							
MCR comb. MAT Sentences *	5.5 ²		MCR comb > MCR sep	<.01	29	17.7	17.8	23.6	24.8	23.7	23.8	-0.1	1.0							
both in CR schools	10.2 ²		MCR comb > MCR sep	.01	42	27.0	27.4	35.2	36.9	35.4	35.7	-0.2	1.2							
	9.5 ²		MCR comb > MCR sep	.01	77	54.0	55.5	66.8	69.6	67.4	68.5	-0.6	1.1							
	7.4 ²		MCR comb > MCR sep	.01	50	27.9	27.8	37.0	38.5	37.2	37.1	-0.1	1.4							
	9.6 ²		MCR comb > MCR sep	.01	127	82.0	83.3	103.8	108.1	104.9	106.1	-1.1	1.9							
Cooperative Reading*	9.2 ²		MCR comb > MCR sep	.01																
MAT Total + Coop. Read.*	F(1,1265)				15	2.54	2.55	2.60	2.66	2.60	2.60	0.00	0.05							
Attitude Toward Reading	NS																			

Table 28 (cont.)

Grade 2

Grade 2															
Comparison	Criterion	F(1,1277)	Direction of Difference	Proportion of Variance Explained by Comparison	# of Items in Criterion	Raw Score Means ⁹								Effectiveness ⁶	
						Pretest		Posttest		Est. Posttest ⁵				1	2
						1 ⁴	2	1	2	1	2	1	2		
All CR vs. MCR in MCR schools	MAT Word Knowledge	NS			35	20.9	26.9	28.9	32.1	28.8	32.1	0.1	-0.0		
	MAT Sentences	NS			13	6.6	9.2	10.4	11.7	10.4	11.7	-0.1	0.0		
	MAT Stories	5.3 ¹	MCR > CR	<.01	29	11.4	16.7	19.3	23.7	19.8	23.4	-0.5	0.3		
	MAT Reading	NS			42	18.0	25.9	29.6	35.4	30.0	35.3	-0.4	0.1		
	MAT Total	NS			77	39.0	52.8	58.5	67.6	58.5	67.8	-0.0	-0.3		
	Cooperative Reading	7.4 ²	MCR > CR	.01	50	19.3	26.5	30.1	37.0	30.9	36.4	-0.8	0.6		
	MAT Total + Coop. Read.	NS			127	58.4	79.3	88.6	104.6	88.8	104.7	-0.2	-0.1		
Attitude Toward Reading [*]		F(1,1265)		NS	15	2.30	2.52	2.50	2.53	2.52	2.58	-0.02	-0.05		
CR schools vs. MCR schools	MAT Word Knowledge	F(1,1277)		NS	35	24.1	26.9	30.5	32.1	30.4	32.1	0.1	-0.0		
	MAT Sentences	NS			13	7.9	9.2	11.0	11.7	11.0	11.7	0.1	0.0		
	MAT Stories	NS			29	14.2	16.7	21.7	23.7	21.6	23.4	0.1	0.3		
	MAT Reading	NS			42	22.2	25.9	32.8	35.4	32.6	35.3	0.2	0.1		
	MAT Total	NS			77	46.3	52.8	63.3	67.6	62.9	67.8	0.3	-0.3		
	Cooperative Reading	NS			50	23.1	26.5	33.7	37.0	33.7	36.4	0.0	0.6		
	MAT Total + Coop. Read.	NS			127	69.5	79.3	97.0	104.6	96.5	104.7	0.5	-0.0		
Attitude Toward Reading		F(1,1265)		NS	15	2.41	2.52	2.57	2.53	2.56	2.58	0.00	-0.05		

Table 28 (cont.)

Grade 2

Grade 2															
Comparison	Criterion	F(2,1277)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Score Means ⁹								Effectiveness ⁶	
						Pretest		Posttest		Est. Posttest ⁵		1	2	1	2
						1 ⁴	2	1	2	1	2				
All CR vs. all MCR, both in CR schools	MAT Word Knowledge	NS			35	21.0	27.9	28.9	32.5	-	-	-	-		
	MAT Sentences	5.0 ²	MCR > CR	.01	13	6.6	9.6	10.4	12.0	-	-	-	-		
	MAT Stories	17.0 ³	MCR > CR	.03	29	11.4	17.7	19.3	24.6	-	-	-	-		
	MAT Reading	8.8 ³	MCR > CR	.01	42	18.0	27.3	29.6	36.6	-	-	-	-		
	MAT Total	NS			77	39.0	55.2	58.5	69.1	-	-	-	-		
	Cooperative Reading ^a	18.5 ³	MCR > CR	.03	50	19.3	27.8	30.1	38.2	-	-	-	-		
	MAT Total + Coop. Read.	3.8 ¹	MCR comb. > CR comb. CR sep. > MCR sep.	.01	127	58.4	83.1	88.7	107.3	-	-	-	-		
All CR vs. all MCR ⁸	Attitude Toward Reading	F(3,1265) 4.0 ¹	MCR comb. > CR comb. CR sep. > MCR sep.	.01	15	2.30	2.55	2.51	2.65	-	-	-	-		
	MAT Word Knowledge	NS			35	21.0	27.8	28.9	32.4	-	-	-	-		
	MAT Sentences	3.3 ¹	MCR > CR	.01	13	6.6	9.5	10.4	12.0	-	-	-	-		
	MAT Stories	11.6 ³	MCR > CR	.03	29	11.4	17.6	19.3	24.5	-	-	-	-		
	MAT Reading	5.9 ³	MCR > CR	.01	42	18.0	27.1	29.6	36.4	-	-	-	-		
	MAT Total	NS			77	39.0	54.9	58.5	68.9	-	-	-	-		
	Cooperative Reading	12.8 ³	MCR > CR	.03	50	19.3	27.7	30.1	38.1	-	-	-	-		
All CR vs. all MCR ⁸	MAT Total + Coop. Read.	NS			127	58.4	82.6	88.7	107.0	-	-	-	-		
	Attitude Toward Reading	F(3,1265) 3.1 ¹	MCR comb. > CR comb. CR sep. > MCR sep. All CR > MCR Schools	.01	15	2.30	2.55	2.51	2.64	-	-	-	-		

Table 28 (cont.)

Grade 4

Comparison	Criterion	F(1,1230)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Score Means ⁹						Effectiveness	
						Pretest		Posttest		Est. Posttest			
						1 ⁴	2	1	2	1	2	1	2
CR sep vs. CR comb. both in CR schools	MAT Word Knowledge	5.2 ¹	CR comb > CR sep	<.01	50	20.0	20.6	26.2	27.3	26.9	27.4	-0.8	-0.2
	MAT Reading	MS			45	16.2	16.8	20.7	21.4	21.2	21.8	-0.6	-0.4
	MAT Total	MS			95	36.2	37.4	46.9	48.7	47.8	48.9	-0.9	-0.2
	Cooperative Reading	6.1 ²	CR comb > CR sep	<.01	50	25.7	26.3	32.3	33.4	32.7	33.2	-0.4	0.1
	MAT Total + Coop. Read.	4.2 ¹	CR comb > CR sep	<.01	145	62.0	63.8	79.2	82.1	80.2	81.9	-0.9	0.2
CR comb vs. MCR both in CR schools	Attitude Toward Reading	MS			25	-0.54	-0.36	-0.63	-0.50	-0.80	-0.69	0.17	0.16
	MAT Word Knowledge *	F(1,1230)			50	20.6	32.7	27.3	37.6	27.4	37.3	-0.2	0.2
	MAT Reading	4.5 ¹	MCR > CR	<.01	45	16.8	25.6	21.4	29.9	21.8	29.9	-0.4	0.1
	MAT Total *	MS			95	37.4	58.3	48.7	67.6	48.9	67.4	-0.2	0.1
	Cooperative Reading	MS			50	26.3	35.3	33.4	40.2	33.2	40.1	0.1	0.1
CR sep vs. MCR both in CR schools	MAT Total + Coop. Read. *	MS			145	63.8	93.6	82.1	107.8	81.9	107.7	0.2	0.0
	Attitude Toward Reading *	F(1,1222)			25	-0.36	-1.07	-0.52	-1.26	-0.69	-1.15	0.16	-0.11
	MAT Word Knowledge	61.3 ³	CR > MCR	.05	50	20.0	34.6	26.2	39.5	26.9	38.8	-0.8	0.7
	MAT Reading	11.7 ³	MCR > CR	<.01	45	16.2	26.8	20.7	31.6	21.2	30.9	-0.6	0.7
	MAT Total	11.1 ³	MCR > CR	<.01	95	36.2	61.4	46.9	71.1	47.8	70.0	-0.9	1.2
Cooperative Reading *	Cooperative Reading *	8.9 ²	MCR > CR	<.01	50	25.7	36.6	32.3	41.3	32.7	40.9	-0.4	1.3
	MAT Total + Coop. Read.	4.6 ¹	MCR > CR	<.01	145	62.0	98.0	79.3	112.5	80.2	111.1	-0.9	0.3
	Attitude Toward Reading	6.0 ²	MCR > CR	<.01									
Attitude Toward Reading		36.0 ³	CR > MCR	.03	25	-0.54	-1.15	-0.63	-1.39	-0.80	-1.20	0.17	-0.19

Table 2B (cont.)

Grade 4

Grade 4														
Comparison		Criterion	F(1,1230)	Direction of Difference	Proportion of Variance Explained by Comparison	M of Items in Criterion	Raw Score Means ⁹						Effectiveness ⁶	
							Pretest	Posttest	Est. Posttest	5				
							1 ⁴	2	1	2	1	2	1	2
MCR sep vs. MCR comb, both in CR schools	MAT Word Knowledge	NS				50	34.6	32.7	39.5	37.6	36.8	37.3	0.7	0.2
	MAT Reading	3.8 ¹	MCR sep > MCR comb	<.01	45	26.8	25.6	31.6	29.9	30.9	29.9	0.7	0.1	
	MAT Total	NS			95	61.4	58.3	71.1	67.6	70.0	67.4	1.2	0.1	
	Cooperative Reading ^a	NS			50	36.6	35.3	41.3	40.2	40.9	40.1	1.3	0.1	
	MAT Total + Coop. Read.	NS			145	98.0	93.6	112.5	107.8	111.1	107.7	0.3	0.0	
<u>F(1,1222)</u>														
All CR vs. MCR in CR schools	Attitude Toward Reading ^a	NS				25	-1.15	-1.07	-1.39	-1.26	-1.20	-1.15	-1.19	-1.11
	MAT Word Knowledge	NS				50	20.4	30.9	26.9	36.3	27.3	36.3	-0.4	0.0
	MAT Reading	NS				45	16.6	24.6	21.2	29.1	21.6	29.0	-0.4	0.1
	MAT Total	NS				95	37.0	55.6	48.2	65.4	48.6	65.6	-0.4	-0.2
	Cooperative Reading	NS				50	26.2	33.9	33.0	39.0	33.1	39.2	-0.0	-0.1
	MAT Total + Coop. Read.	NS				145	63.2	89.5	81.2	104.5	81.3	105.1	-0.1	-0.5
<u>F(1,1222)</u>														
CR schools vs. MCR schools	Attitude Toward Reading	11.9 ³	CR > MCR	.01	25	-0.42	-0.97	-0.56	-1.13	-0.73	-1.09	0.16	-0.03	
	MAT Word Knowledge	NS			50	26.2	30.9	31.9	36.3	32.0	36.3	-0.0	0.0	
	MAT Reading	NS			45	20.8	24.6	25.3	29.1	25.5	29.0	-0.1	0.1	
	MAT Total	NS			95	47.0	55.6	57.3	65.4	57.4	65.6	-0.0	-0.2	
	Cooperative Reading	NS			50	30.4	33.9	36.4	39.0	36.4	39.2	0.0	-0.1	
	MAT Total + Coop. Read.	NS			145	77.5	89.5	93.8	104.5	93.7	105.1	0.0	-0.5	
<u>F(1,1222)</u>														
Attitude Toward Reading			NS			25	-0.72	0.97	-0.89	-1.13	-0.92	-1.09	0.03	-0.03

Table 28 (cont.)

Grade 4

Comparison	Criterion	F(2,1230)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Score Means ⁹						Effectiveness ⁶	
						Pretest		Posttest		Est. Posttest ⁵			
						1 ⁴	2	1	2	1	2	1	2
All CR vs. all MCR, both in CR schools ⁷	MAT Word Knowledge	6.2 ²	MCR > CR	.01	50	20.4	33.0	26.9	37.9	-	-	-	-
	MAT Reading	6.6 ²	MCR > CR	.01	45	16.6	25.8	21.2	30.3	-	-	-	-
	MAT Total	4.4 ¹	MCR > CR	.01	95	37.0	58.9	48.2	68.8	-	-	-	-
	Cooperative Reading	NS			50	26.2	35.3	33.0	40.4	-	-	-	-
	MAT Total + Coop. Read.	3.4 ¹	CR comb. > MCR comb. MCR sep. > CR sep.	.01	145	63.2	94.4	81.2	108.7	-	-	-	-
All CR vs. all MCR ⁸	Attitude Toward Reading	F(3,1222) 45.1 ³	CR > MCR	.07	25	-0.42	-1.09	-0.56	-1.29	-	-	-	-
	MAT Word Knowledge	4.1 ²	MCR > CR	.01	50	20.4	32.8	26.9	37.8	-	-	-	-
	MAT Reading	4.4 ²	MCR > CR	.01	45	16.6	25.7	21.2	30.2	-	-	-	-
	MAT Total	3.0 ¹	MCR > CR	.01	95	37.0	58.5	48.2	67.9	-	-	-	-
	Cooperative Reading	NS			50	26.2	35.3	33.0	40.2	-	-	-	-
	MAT Total + Coop. Read.	NS			145	63.2	93.9	81.2	108.2	-	-	-	-
	Attitude Toward Reading	F(3,1222) 30.3 ³	CR > MCR	.07	25	-0.42	-1.08	-0.56	-1.27	-	-	-	-

Table 28 (cont.)

Grade 5

Comparison	Criterion	F(1,1012)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Score Means ⁹						Effectiveness ⁶	
						Pretest		Posttest		Est. Posttest		1	2
						1 ⁴	2	1	2	1	2		
CR sep vs. CR comb. both in CR schools	MAT Word Knowledge *	NS			50	30.9	32.6	34.3	36.0	34.6	36.0	-0.3	0.0
	MAT Reading	NS			45	23.4	24.7	26.6	27.7	26.8	27.9	-0.2	-0.2
	MAT Total *	NS			95	54.3	57.3	60.9	63.7	61.2	63.8	-0.3	-0.0
	STEP II Reading	NS			60	26.2	27.8	29.5	31.2	29.7	31.1	-0.2	0.1
	MAT Total + STEP Read.*	NS			155	80.6	85.2	90.4	95.0	90.8	94.8	-0.4	0.2
CR comb vs. MCR comb. both in CR schools	Attitude Toward Reading	NS			25	-0.51	-0.38	-0.49	-0.41	-0.60	-0.50	0.10	0.08
	MAT Word Knowledge	NS			50	32.6	41.2	36.0	43.2	36.0	42.8	0.0	0.4
	MAT Reading	NS			45	24.7	32.9	27.7	34.8	27.9	34.6	-0.2	0.2
	MAT Total	NS			95	57.3	74.2	63.7	78.0	63.8	77.6	-0.0	0.4
	STEP II Reading*	NS			60	27.8	38.6	31.2	41.0	31.1	40.4	0.1	0.5
CR sep vs. MCR sep. both in CR schools	MAT Total + STEP Read.	NS			155	85.2	112.8	95.0	119.0	94.8	118.6	0.2	0.4
	Attitude Toward Reading	22.4 ³	CR > MCR	.02	25	-0.38	-1.13	-0.41	-1.16	-0.50	-1.07	0.08	-0.09
	MAT Word Knowledge	NS			50	30.9	40.3	34.3	42.4	34.6	42.0	-0.3	0.3
	MAT Reading	NS			45	23.4	32.0	26.6	34.4	26.8	33.9	-0.2	0.5
	MAT Total	NS			95	54.3	72.3	60.9	76.7	61.2	76.1	-0.3	0.6
STEP II Reading	STEP II Reading	5.1 ¹	MCR > CR	.01	60	26.2	37.8	29.5	40.5	29.7	39.8	-0.2	0.7
	MAT Total + STEP Read.	NS			155	80.6	110.0	90.4	117.2	90.8	116.2	-0.4	0.9
Attitude Toward Reading	Attitude Toward Reading	11.0 ³	CR > MCR	.01	25	-0.51	-1.09	-0.49	-1.10	-0.60	-1.03	0.10	-0.06

Table 28 (cont.)

Table 28 (cont.)												
Grade 6												
Comparison	Criterion	F(1,1012)	Direction of Difference	N of Items in Criterion	Proportion of Variance Explained by Comparison	Raw Score Means ⁹						Effectiveness ⁶
						Pretest		Posttest		Met.		
MCR sep vs. MCR comb, both in CR schools	MAT Word Knowledge *	MS		50		40.3	41.2	34.3	43.2	42.0	42.8	0.3 0.4
	MAT Reading	MS		45		32.0	32.9	26.6	34.8	33.9	34.6	0.5 0.2
	MAT Total*	MS		95		72.3	74.2	60.9	78.0	76.1	77.6	0.6 0.4
	STEP II Reading	MS		60		37.8	38.6	29.5	41.0	39.8	40.4	0.7 0.5
	MAT Total + STEP Read.	MS		155		110.0	112.8	90.4	119.0	116.2	118.6	0.9 0.4
	Attitude Toward Reading	MS		25		-1.09	-1.13	-1.10	-1.16	-1.03	-1.07	-0.06 -0.09
All CR vs. MCR in MCR schools	MAT Word Knowledge *	MS		50		32.0	40.8	35.4	42.0	35.5	42.5	-0.1 -0.4
	MAT Reading	MS		45		24.3	32.5	27.3	34.2	27.6	34.3	-0.2 -0.2
	MAT Total *	MS		95		56.3	73.3	62.8	76.2	62.9	76.9	-0.1 -0.7
	STEP II Reading	MS		60		27.3	38.3	30.6	40.4	30.6	40.3	-0.0 0.1
	MAT Total + STEP Read. *	MS		155		83.6	111.7	93.5	116.7	93.5	117.7	-0.0 -1.0
	Attitude Toward Reading	MS		25		-0.42	-1.06	-0.44	-1.05	-0.53	-1.02	-0.09 -0.03
CR schools vs. MCR schools	MAT Word Knowledge *	MS		50		34.5	40.8	39.2	42.0	39.0	42.5	0.2 -0.4
	MAT Reading	MS		45		28.4	32.5	30.9	34.2	30.9	34.3	0.0 -0.2
	MAT Total *	MS		95		64.9	73.3	70.2	76.2	69.9	76.9	0.2 -0.7
	STEP II Reading	MS		60		32.8	38.3	35.7	40.4	35.4	40.3	0.3 0.1
	MAT Total + STEP Read. *	MS		155		97.7	111.7	105.9	116.7	105.6	117.7	0.3 -3.0
	Attitude Toward Reading	MS		25		-0.72	-0.97	-0.89	-1.13	-0.93	-1.09	0.03 -0.00

Table 28 (cont.)

Grade 6

Raw Score Means ⁹												
Comparison	Criterion	F(2,1012)	Direction of Difference	Proportion of Variance Explained by Comparison	M of Items in Criterion	Pretest		Posttest		Est. Posttest ⁵		Effectiveness ⁶
						1 ⁴	2	1	2	1	2	
All CR vs. all MCR, both in CR schools	MAT Word Knowledge	NS			50	32.0	41.0	35.4	43.0	-	-	-
	MAT Reading	NS			45	24.3	32.7	27.3	34.7	-	-	-
	MAT Total	NS			95	56.3	73.7	62.8	77.6	-	-	-
	STEP II Reading	NS			60	27.3	38.3	30.6	40.8	-	-	-
	MAT Total + STEP Read.	NS			155	83.6	112.0	93.5	118.5	-	-	-
	Attitude Toward Reading	F(2,1010) 15.3 ³	CR MCR	.03	25	-0.42	-1.13	-0.44	-1.15	-	-	-
All CR vs. all MCR ⁸	MAT Word Knowledge	NS			50	32.0	41.0	35.4	42.9	-	-	-
	MAT Reading	NS			45	24.3	32.6	27.3	34.6	-	-	-
	MAT Total	NS			95	56.3	73.6	62.8	77.5	-	-	-
	STEP II Reading	NS			60	27.3	38.3	30.6	40.8	-	-	-
	MAT Total + STEP Read.	NS			155	83.6	112.0	93.5	118.3	-	-	-
	Attitude Toward Reading	F(3,1010) 10.3 ³	CR MCR	.03	25	-0.42	-1.12	-0.44	-1.14	-	-	-

Grade 6

2 CR level

3 .001 level

1 .05 level

2 .01 level

3 .001 level

⁴"1" indicates the first group mentioned in the "Comparison" column, "2" indicates the second. E.g., for the first listed comparison, "1" refers to CR sep. and "2" refers to CR comb.

⁵Posttest mean adjusted for effect of the covariates

⁶Posttest mean minus estimated posttest mean

⁷This comparison was analyzed as a joint test of the following two comparisons: CR combined vs. MCR combined, both in CR schools; CR separate vs. MCR separate, both in CR schools. Because the analysis was a joint test, a single set of posttest estimates and effectiveness indices is not appropriate and therefore not given. The means shown are those of the comparison groups, although the joint test is not a direct test of the difference between them.

⁸This comparison was analyzed as a joint test of the following three comparisons: CR combined vs. MCR combined, both in CR schools; CR separate vs. MCR separate, both in CR schools; all CR vs. MCR in MCR schools. Because the analysis was a joint test, a single set of means and effectiveness indices is not appropriate and therefore not given. The means shown are those of the comparison groups, although the joint test is not a direct test of the difference between them.

⁹Attitude means are expressed in terms of the Rasch scale (see p. 57)

NOTE: In addition to the joint tests described in Footnotes 7 and 8 above, single degrees of freedom tests at each of these comparisons were performed.

In each case, regression curves were not parallel and the analysis was therefore uninterpretable.

⁸Non-parallel regression curves

Examination of Table 28 suggests that the grouping of compensatory and non-compensatory students has an influence on reading achievement gain (it should be noted that the term "gain" is here used to mean posttest score with the effect of pretest and pretest squared removed via the analysis of covariance). In both grades 2 and 4, the gains of CR students in classes where they are grouped with NCR students exceed those of CR students grouped by themselves, for several of the reading achievement scores. In grade 4, there are no significant differences between the two kinds of groupings of NCR students, except for one moderately significant result favoring NCR students in separate classes. Thus in general it appears that second and fourth grade CR students profit from being grouped with NCR students, and that the NCR students so grouped at least do not suffer as a result. The reasons for the superiority of mixed CR/NCR grouping in grades 2 and 4 have not yet been and perhaps cannot be determined from the data of this study, but it is not difficult to hypothesize about the positive effects in mixed classes of peer role models, socialization situations, and the absence of the stigma attached to achievement segregation. Of course, it is possible that the educational advantagement variable is not completely represented by the reading pretest score, and that the CR students in combined classes are not as educationally disadvantaged as are CR students in separate classes. Since no other potential components of educational advantagement were measured, it is not possible to explore this hypothesis with the data of this study. With respect to the relative achievement gain of CR and NCR students under mixed group conditions, it is interesting to note that, as might be anticipated, NCR students gain more in grade 2. Perhaps more surprising is the finding that there are almost no differences in achievement gain between CR and NCR students grouped together in grades 4 and 6, as indicated by the "NS" results shown in Table 28.

One of the major reasons for including NCR schools in the study was that they might provide a group of students less systematically different from CR students than are NCR students in CR schools. Examination of Table 28 reveals two significant differences for the "all

CR vs. NCR in NCR schools" comparison, and no significant differences in grades 4 and 6. However, it should be remembered that "all CR" includes CR students in both combined and separate class settings, and that the relatively high gains of the former are offset by the relatively low gains of the latter. The absence of differences between CR and NCR schools at all grade levels should also be noted, remembering that the "CR schools" effect is a mixture of both CR and NCR students under all conditions of grouping.

Finally, the almost total absence of significant reading achievement differences at the sixth grade level is noteworthy. The data from this study permit one only to speculate on the possible meaning of this. However, these findings seem to suggest that techniques which differentially help either compensatory or non-compensatory students at the sixth grade level either have not been developed or are not being widely used. It is nonetheless the case that sixth grade CR students are not falling further behind in reading achievement.

Examination of the attitude toward reading results shown in Table 28 shows some interesting contrasts to the achievement gain findings. In all but one instance, the significant differences in attitude gain favor CR students over NCR students. In several instances, these results represent either a reversal of the direction of differences found for reading achievement or a finding of significant differences where none occurred for reading achievement.

For a presentation of two alternative analyses of the same achievement and attitude data, the reader is referred to Appendix C of this report. In addition to the standard covariance analysis reported in this section, Appendix C shows the results of an analysis of difference scores and of treatment-effect correlations. These analyses were performed because there existed a choice between analyses allowing for unconditional inference (e.g., analysis of variance on difference scores, or treatment effect correlations), and analyses allowing for conditional inference (e.g., analysis of covariance on posttest removing an appropriate function of pretest). In an experimental or quasi-experimental

design study, when one or more treatment groups is selected in a biased manner with respect to the pre-treatment variable, the appropriate analysis is a conditional one, conditioning on the level of the pre-treatment variable. In a comparative study where one is attempting simply to describe the differences between two well-defined groups (e.g., males and females), the appropriate analysis is an unconditional one, ignoring the level of the pre-treatment variable.

From the definition of the compensatory reading group given on page 2 of this report, it is clear that this group was selected in a biased manner with respect to pretest; i.e., students are said to have received compensatory reading instruction "...because they are reading below their grade level." Additional evidence of this selection effect can be seen by examining the treatment-pretest correlation shown in Appendix C. Consequently the most appropriate analysis is the conditional one, analysis of covariance.

The preceding analyses show fourth and sixth grade CR students exceeding NCR students in attitude gain in all comparisons for which differences were found to be statistically significant. This finding was of sufficient interest to suggest the desirability of further exploratory analysis. In particular, it was hypothesized that higher initial (pretest) attitudes and/or attitude gains on the part of fourth and sixth grade CR students might be the culmination of several years' prior compensatory treatment for these students. Such an hypothesis would be consistent with the fact that CR superiority was found in the fourth and sixth grades, but not in the second. In order to test this hypothesis, students were cross classified according to the previously described CR/NCR categories and the amount of prior compensatory reading instruction they had received, as indicated in the Individual Student Questionnaire. Analyses were designed to test the following comparisons:

<u>Comparison</u>	<u>Description</u>
-------------------	--------------------

- | | |
|---|---|
| 1 | CR separate, no prior CR vs. NCR separate (CR school) |
| 2 | CR combined (CR school), no prior CR vs. NCR combined (CR school) |

<u>Comparison</u>	<u>Description</u>
3	CR separate and combined (CR school), no prior CR vs. NCR (NCR school)
4	<u>All</u> students in CR schools vs. NCR (NCR schools)
5	CR separate, any am't. prior CR vs. NCR separate (CR school)
6	CR separate, any am't. prior CR vs. NCR combined (CR school)
7	CR separate, "other"* prior CR vs. CR separate, 1, 2, or 3 yrs. prior CR
8	CR combined (CR school), "other" prior CR vs. CR combined (CR school), 1, 2, or 3 yrs. prior
9	CR separate, 1 yr. prior CR vs. CR separate, 3 or more yr. prior CR
10	CR separate, 2 yrs. prior CR vs. CR separate, 3 or more yrs. prior CR
11	CR combined, 1 yr. prior CR vs. CR combined, 3 or more yrs. prior CR
12	CR combined, 2 yrs. prior CR vs. CR combined, 3 or more yrs. prior CR
1 & 2	All CR (no prior CR) vs. all NCR (CR school)
5 & 6	CR separate (any am't. prior CR) vs. all CR (1, 2, 3 yrs. prior CR)
7 & 8	All CR ("other" prior CR) vs. all CR (1, 2, 3 yrs prior CR)
1, 2, & 3	All CR (no prior CR) vs. all NCR
7-12	All CR (1, 2 yrs. or "other" prior CR) vs. all CR (3 or more yrs. prior CR)
1, 2, 5, 6	All CR (prior CR irrelevant) vs. all NCR

*The "other" category is a combination of the "less than 1 year" (of prior CR instruction) and "don't know" options of the Individual Student Questionnaire item.

Analyses of variance of pretest attitude scores, and analyses of covariance of posttest attitude scores (with the effects of pretest and the other comparisons removed) were performed. Table 28 below shows the results of these analyses.

Table 29

Significant Differences in Attitude Toward Reading Pretest Scores and Gain, Among Compensatory and Non-Compensatory Student Groups Having Various Degrees of Prior Exposure to CR Programs

<u>Grade 4</u>				
<u>Comparison</u>	<u>Dep. Var.</u>	<u>Sig.</u>	<u>Prop. of Variance Explained by Comparison</u>	<u>Direction</u>
1	Pre	<.01	.002	CR > NCR
1	Gain*	<.01	.002	CR > NCR
2	Pre	<.01	.01	CR > NCR
2	Gain*	<.01	.002	CR > NCR
3	Pre	<.01	.002	CR > NCR
3	Gain*	<.01	.001	CR > NCR
4	Pre	<.01	.01	CR > NCR
4	Gain*	<.01	.003	CR > NCR
5	Pre	<.01	.01	CR > NCR
5	Gain*	<.01	.01	CR > NCR
6	Pre	<.01	.01	CR > NCR
6	Gain	<.01	.01	CR > NCR
7	Gain*	.01	.001	CR separate ("other") > CR separate (1, 2, 3 or more yrs. prior)
8	Gain	.04	.000	CR combined ("other") > CR combined (1, 2, 3 or more yrs. prior)
1 & 2	Pre	<.01	.01	CR > NCR
1 & 2	Gain	<.01	.005	CR > NCR
5 & 6	Pre	<.01	.01	CR > NCR
5 & 6	Gain	<.01	.01	CR > NCR
7 & 8	Gain	<.01	.001	CR > NCR
1, 2, & 3	Pre	<.01	.01	CR > NCR
1, 2, & 3	Gain	<.01	.01	CR > NCR
7-12	Gain	.02	.001	CR (1, 2 "other") > CR (3 or more yrs. prior)
1, 2, 5, 6	Pre	<.01	.02	CR (prior irrelevant) > NCR
1, 2, 5, 6	Gain	<.01	.01	CR (prior irrelevant) > NCR

Table 29 (cont.)

Grade 6

<u>Comparison</u>	<u>Dep. Var.</u>	<u>Sig.</u>	<u>Prop. of Vari- ance Explained by Comparison</u>	<u>Direction</u>
1	Pre	.01	.001	CR > NCR
1	Gain*	<.01	.001	CR > NCR
2	Pre	<.01	.01	CR > NCR
2	Gain*	<.01	.001	CR > NCR
3	Pre	<.01	.001	CR > NCR
3	Gain*	<.01	.001	CR > NCR
4	Pre	<.01	.01	CR > NCR
4	Gain*	<.01	.001	CR > NCR
5	Pre	<.01	.01	CR > NCR
5	Gain*	<.01	.003	CR > NCR
6	Pre	<.01	.01	CR > NCR
6	Gain	<.01	.004	CR > NCR
7	Gain	<.01	.001	CR separate ("other" prior CR) > CR separate (1, 2, 3 or more yrs. prior)
9	Pre	.01	.001	CR separate (3 or more prior) > CR separate (1 prior)
10	Pre	.04	.000	CR separate (2 prior) > CR separate (3 or more prior)
1 & 2	Pre	<.01	.01	CR > NCR
1 & 2	Gain	<.01	.00	CR > NCR
5 & 6	Pre	<.01	.01	CR > NCR
5 & 6	Gain	<.01	.00	CR > NCR
7 & 8	Gain	.01	.001	("other" > 1, 2, 3 or more prior for separate CR) (reverse for NCR)
1, 2, & 3	Pre	<.01	.01	CR > NCR
1, 2, & 3	Gain	<.01	.003	CR > NCR
7-12	Pre	<.01	.002	both
1, 2, 5, 6	Pre	<.01	.02	CR > NCR
1, 2, 5, 6	Gain	<.01	.01	CR > NCR

*Non-parallel regression curves

Inspection of Table 29 shows that, in general, the fourth and sixth grade superiority of CR students over NCR students with respect to gain in attitude toward reading holds up regardless of amount of prior CR instruction. Moreover, the same pattern is, in general, true of the relative standing of CR and NCR groups on attitude pretest. Thus it would seem that prior exposure to compensatory reading instruction is not shown by the data to be a plausible explanation for the higher attitude pretest scores and gains of CR students. The attitude toward reading measure constructed especially for this study contains items not only relating to student attitude toward reading, but also student attitude toward self as a reader. As such, it may be that the instrument is tapping some aspects of the more general construct of attitude toward self. Some recent studies have found that low SES students tend to have unrealistically high attitudes toward self. Perhaps the above described results for compensatory reading students are a reflection of this phenomenon.

Analyses comparing achievement pretest and achievement gain for various kinds and degrees of prior compensatory treatment were also performed, testing the following comparisons:

<u>Comparison</u>	<u>Description</u>
1	CR separate, no prior CR vs. NCR separate (CR school)
2	CR combined, no prior CR vs. NCR combined (CR school)
3	CR separate and combined, no prior CR vs. NCR (NCR schools)
4	<u>All</u> students in CR schools vs. NCR (NCR schools)
5	CR separate, no prior CR vs. CR separate, any am't. prior CR
6	CR combined, no prior CR vs. CR combined, any am't. prior CR
7	CR separate, less than 1 yr. prior CR vs. CR separate, greater than 1 yr. prior CR
8	CR combined, less than 1 yr. prior CR vs. CR combined, greater than 1 yr. prior CR
9	CR separate, 1 yr. prior CR vs. CR separate, greater than 3 yrs. prior CR
10	CR separate, 2 yrs. prior CR vs. CR separate, greater than 3 yrs. prior CR
11	CR combined, 1 yr. prior CR vs. CR combined, greater than 3 yrs. prior CR

<u>Comparison</u>	<u>Description</u>
12	CR combined, 2 yrs. prior CR vs. CR combined, greater than 3 yrs. prior CR
1 & 2	All CR (no prior CR) vs. all NCR (CR school)
7 & 8	All CR (less than 1 yr. prior CR) vs. all CR (greater than 1 yr. prior CR)
1, 2, & 3	All CR (no prior CR) vs. all NCR
1, 2, 5, 6	All CR (prior CR irrelevant) vs. all NCR (CR schools)

Analyses of variance of pretest achievement scores, and analyses of covariance of posttest achievement scores (with the effects of pretest, pretest squared, and the other comparisons removed) were performed. Table 30 below shows the results of these analyses.

Table 30

Differences in Reading Achievement Pretest Scores and Gain Among Compensatory and Non-Compensatory Student Groups Having Various Degrees of Prior Exposure to CR Programs

<u>Grade 2</u>					
<u>Comparison</u>	<u>Dep. Var.</u>	<u>Sig.</u>	<u>Prop. of Variance Explained by Comparison</u>	<u>Direction</u>	
1	Pre	<.01	.02	NCR > CR	
1	Gain	.02	<.01	NCR > CR	
2	Pre	<.01	.09	NCR > CR	
2	Gain*	<.01	<.01	NCR > CR	
3	Pre	<.01	.08	NCR > CR	
3	Gain*	<.01	<.01	NCR > CR	
4	Pre	<.01	.02	NCR > CR	
4	Gain	<.01	<.01	NCR > CR	
5	Pre	<.01	<.01	CR separate (no prior CR) > CR separate (any prior CR)	
5	Gain	<.01	<.01	CR separate (no prior CR) > CR separate (any prior CR)	
6	Pre	.01	<.01	CR combined (no prior CR) > CR combined (any prior CR)	
6	Gain	<.01	<.01	CR combined (no prior CR) > CR combined (any prior CR)	

Table 30 (cont.)

Grade 2 (cont.)

<u>Comparison</u>	<u>Dep. Var.</u>	<u>Sig.</u>	<u>Prop. of Variance Explained by Comparison</u>	<u>Direction</u>
7	Pre	.05	<.01	CR separate (>1 yr. prior CR) > CR separate (<1 yr. prior CR)
7	Gain*	<.01	<.01	CR separate (<1 yr. prior CR) > CR separate (>1 yr. prior CR)
8	Pre	NS		
8	Gain	<.01	<.01	CR combined (<1 yr. prior CR) > CR combined (>1 yr. prior CR)
9	Pre	NS		
9	Gain*	<.01	<.01	CR separate (1 yr. prior CR) > CR separate (3 or more yrs. prior CR)
10	Pre	NS		
10	Gain	NS		
11	Pre	NS		
11	Gain	.01	<.01	CR combined (1 yr. prior CR) > CR combined (3 or more yrs., prior CR)
12	Pre	NS		
12	Gain	NS		
1 & 2	Pre	<.01	.11	NCR > CR
1 & 2	Gain	<.01	<.01	NCR > CR
7 & 8	Pre	NS		
7 & 8	Gain	<.01	<.01	All CR (<1 yr. prior CR) > all CR (>1 yr. prior CR)
1, 2, & 3	Pre	<.01	.11	NCR > CR
1, 2, & 3	Gain	<.01	.01	NCR > CR
1, 2, 5, 6	Pre	<.01	.13	NCR > CR All CR (no prior CR) > all CR (any prior CR)
1, 2, 5, 6	Gain	<.01	.01	NCR > CR All CR (no prior CR) > all CR (any prior CR)

Grade 4

1	Pre	<.01	.03	NCR > CR
1	Gain*	<.01	<.01	NCR > CR
2	Pre	<.01	<.04	NCR > CR
2	Gain	<.01	<.01	NCR > CR

Table 30 (cont.)

Grade 4 (cont.)

Comparison	Dep. Var.	Sig.	Prop. of Vari- ance Explained by Comparison	Direction
3	Pre	<.01	.06	NCR > CR
3	Gain	<.01	<.01	NCR > CR
4	Pre	<.01	.05	NCR > CR
4	Gain	<.01	<.01	NCR > CR
5	Pre	<.01	<.01	CR separate (no prior CR) > CR separate (any prior CR)
5	Gain	NS		
6	Pre	<.01	.01	CR combined (no prior CR) > CR combined (any prior CR)
6	Gain	NS		
7	Pre	.01	<.01	CR separate (>1 yr. prior CR) > CR separate (<1 yr. prior CR)
7	Gain	NS		
8	Pre	NS		
8	Gain*	NS		
9	Pre	.04	<.01	CR separate (>1 yr. prior CR) > separate (1 yr. prior CR)
9	Gain	NS		
10	Pre	.02	<.01	CR separate (3 or more yrs. prior CR) > separate (2 yrs. prior CR)
10	Gain	NS		
11	Pre	NS		
11	Gain	NS		
12	Pre	NS		
12	Gain	NS		
1 & 2	Pre	<.01	.07	NCR > CR
1 & 2	Gain	<.01	<.01	NCR > CR
7 & 8	Pre	.05	<.01	CR separate (>1 yr. prior CR) > CR separate (<1 yr. prior CR) CR combined (<1 yr. prior CR) > CR combined (>1 yr. prior CR)
7 & 8	Gain	NS		
1, 2, & 3	Pre	<.01	.07	NCR > CR
1, 2, & 3	Gain	<.01	<.01	NCR > CR
1, 2, 5, 6	Pre	<.01	.24	NCR > CR All CR (no prior CR) > all CR (any prior CR)

Table 30 (cont.)

Grade 4 (cont.)

Comparison	Dep. Var.	Sig.	Prop. of Variance Explained by Comparison	Direction
1, 2, 5, 6	Gain	<.01	.01	NCR > CR All CR (no prior CR) > all CR (any prior CR)

Grade 6

1	Pre	<.01	.01	NCR > CR
1	Gain	NS		
2	Pre	<.01	.04	NCR > CR
2	Gain	FS		
3	Pre	<.01	.05	NCR > CR
3	Gain	NS		
4	Pre	<.01	.05	NCR > CR
4	Gain*	NS		
5	Pre	<.01	.01	CR separate (no prior CR) > CR separate (any prior CR)
5	Gain	NS		
6	Pre	<.01	.01	CR combined (no prior CR) > CR combined (any prior CR)
6	Gain*	.03	<.01	CR combined (no prior CR) > CR combined (any prior CR)
7	Pre	<.01	<.01	CR separate (>1 yr. prior CR) > CR separate (<1 yr. prior CR)
7	Gain	<.01	<.01	CR separate (<1 yr. prior CR) > CR separate (>1 yr. prior CR)
8	Pre	.04	<.01	CR combined (<1 yr. prior CR) > CR combined (>1 yr. prior CR)
8	Gain*	NS		
9	Pre	NS		
9	Gain	.01	<.01	CR separate (>1 yr. prior CR) > CR separate (<1 yr. prior CR)
10	Pre	<.01	<.01	CR separate (3 or more yrs. prior CR) > CR separate (2 yrs. prior CR)
10	Gain	.02	<.01	CR separate (3 or more yrs. prior CR) > CR separate (2 yrs. prior CR)
11	Pre	NS		
11	Gain	NS		

Table 30 (cont.)

Grade 6 (cont.)

Comparison	Dep. Var.	Sig.	Prop. of Variance Explained by Comparison	Direction
12	Pre	NS		
12	Gain	NS		
1 & 2	Pre	<.01	.05	NCR > CR
1 & 2	Gain	NS		
7 & 8	Pre	<.01	<.01	CR separate (>1 yr. prior CR) > CR separate (<1 yr. prior CR) CR combined (<1 yr. prior CR) > CR combined (>1 yr. prior CR)
7 & 8	Gain	.03	<.01	All CR (<1 yr. prior CR) > all CR (>1 yr. prior CR)
1, 2, & 3	Pre	<.01	.05	NCR > CR
1, 2, & 3	Gain	NS		
1, 2, 5, 6	Pre	<.01	.20	NCR > CR All CR (no prior CR) > all CR (any prior CR)
1, 2, 5, 6	Gain	<.01	.01	NCR separate > CR separate (no prior CR) CR combined (no prior CR) > NCR combined CR separate (no prior CR) > CR separate (any am't. prior CR) CR combined (no prior CR) > CR combined (any am't. prior CR)

*Non-parallel regression curves

Reference to Table 30 reveals that, at the second grade level, the students with relatively more prior CR experience tend in general to have lower achievement pretest and gain scores. This should not necessarily be regarded as evidence of the ineffectiveness of CR programs, but rather as evidence that the lower achievers and slower learners are indeed being selected for compensatory reading instruction. At the fourth and sixth grade levels, the picture is somewhat more complex. This is no doubt due to the cumulative effect of a wide variety of compensatory reading experiences having markedly differential effectiveness.

Table 31 shows the number and percentage of CR students in various grouping categories with varying amounts of prior compensatory treatment, in each of four funding categories. Data for the following student groups are presented in the table:

1. CR separate, no prior CR
2. CR separate, less than one year prior CR
3. CR separate, one year prior CR
4. CR separate, two years prior CR
5. CR separate, three or more years prior CR
6. CR combined, no prior CR
7. CR combined, less than one year prior CR
8. CR combined, one year prior CR
9. CR combined, two years prior CR
10. CR combined, three or more years prior CR

Outcome Differences Among Program Characteristics Categories

Analysis of individual cluster effectiveness. Analyses of covariance were performed comparing each of the positive school clusters (1A, . . . 5A) in turn to the average of the other four positive clusters and cluster 11. Each of the reading achievement and attitude posttest scores in turn was the dependent variable. The concomitant variables were the corresponding reading achievement or attitude pretest, latent teacher variables 1-3 (see "Addendum to the Phase I Report," pp. 1-4, "Development of the Teacher Variables"), socioeconomic status (see "Addendum to the Phase I Report," p. 1), and the effects of the remaining contrasts in the set to be tested. None of these analyses showed a statistically significant difference at or below the 5% level. Thus it is concluded from this analysis that none of the eleven clusters (1A, 1B, . . . 5A, 5B, and 11) was significantly more effective in producing student gains on any reading achievement or attitude toward reading variable at any grade level.

Table 31
Percentages of CR Students with Varying Amounts of Prior CR Treatment, by
Funding Category

Grade 2 Student Group (see preceding text)	Funding Category									
	Total Title I		Partial Title I		Non-Title I		Unclassifiable		Total	
	N	%	N	%	N	%	N	%	N	%
1	189	27.9	78	11.5	148	21.8	263	38.8	678	13.7
2	91	75.8	2	1.7	14	11.7	13	10.8	120	2.4
3	319	34.8	118	12.9	149	16.3	330	36.0	916	18.6
4	93	46.0	7	3.5	27	13.4	75	37.1	202	4.1
5	17	100.0	0	0.0	0	0.0	0	0.0	17	0.3
6	677	45.5	119	8.0	185	12.4	507	34.1	1488	30.2
7	96	26.4	23	6.3	122	33.5	123	33.8	364	7.4
8	380	36.4	135	12.9	143	13.7	387	37.0	1045	21.2
9	29	29.3	31	31.3	3	3.0	36	36.4	99	2.0
10	0	0.0	0	0.0	0	0.0	4	100.0	4	0.1
Total	1891	38.3	513	10.4	791	16.0	1738	35.2	4933	

Grade 4	1	211	33.3	96	15.1	109	17.2	218	34.4	634	14.0
	2	25	23.1	15	13.9	19	17.6	49	45.4	108	2.4
	3	247	61.6	67	16.7	22	5.5	65	16.2	401	8.8
	4	84	24.3	15	4.3	142	41.0	105	30.3	346	7.6
	5	216	39.6	75	13.7	97	17.8	158	28.9	546	12.0

Table 31 (cont.)

Grade 4 (cont.)

Student Group (see preceding text)	Funding Category									
	Total Title I		Partial Title I		Non-Title I		Unclassifiable		Total	
	N	%	N	%	N	%	N	%	N	%
6	346	45.4	51	6.7	101	13.3	264	34.6	762	16.8
7	76	39.2	21	10.8	25	12.9	72	37.1	194	4.3
8	252	53.1	55	11.6	49	10.3	119	25.1	475	10.5
9	187	35.9	66	12.7	101	19.4	167	32.1	521	11.5
10	136	24.8	103	18.8	59	10.8	250	45.6	548	12.1
Total	1780	39.3	564	12.4	724	16.0	1467	32.3	4535	

Grade 6

1	251	46.2	53	9.8	59	10.9	180	33.1	543	12.9
2	119	57.8	9	4.4	36	17.5	42	20.4	206	4.9
3	148	51.9	11	3.9	44	21.4	82	28.8	285	6.8
4	127	49.6	21	8.2	79	30.9	29	11.3	256	6.1
5	241	41.2	81	13.8	97	16.6	166	28.4	585	13.9
6	412	50.1	81	10.0	157	19.1	172	20.9	822	19.5
7	42	38.2	7	6.4	21	19.1	40	36.4	110	2.6
8	178	53.8	17	5.1	36	10.9	100	30.2	331	7.9
9	146	36.6	45	11.3	65	16.3	143	35.8	399	9.5
10	182	27.0	101	15.0	129	19.2	261	38.8	673	16.0
Total	1846	43.8	426	10.1	723	17.2	1215	28.9	4210	

In order to increase the sensitivity of the analyses of differences among clusters, curvilinear analyses of covariance blocking on the CR/NCR factor were performed. Each of the reading achievement and attitude posttest scores in turn was the dependent variable. The concomitant variables were the corresponding reading achievement and attitude pretest scores and pretest scores squared. The units of analysis were the CR and NCR school means, separately for each of grades 2, 4, and 6. Differences among eleven clusters were assessed: cluster 4B (characterized by a deemphasis on supplementary reading activities) was omitted because it contained an insufficient number of schools, and a cluster comprised of certain schools whose CR/NCR status was ambiguous was included.

There were no statistically significant differences among the eleven clusters for any of the dependent variables in either grade 2 or grade 6. However, in grade 4, there were significant differences among clusters in terms of the MAT Word Knowledge [$F(10, 346 \text{ D.F.}) = 2.2$; $p = .02$; proportion of total variance accounted for by comparison $< .01$], MAT Reading [$F(10, 346 \text{ D.F.}) = 2.3$; $p = .01$; proportion of total variance accounted for by comparison $< .01$], and MAT Total [$F(10, 346 \text{ D.F.}) = 2.5$; $p = .007$; proportion of total variance accounted for by comparison $< .01$]. Although the difference for the Cooperative Reading + MAT Total score was also significant, it was uninterpretable because the regression curves were not parallel. Examination of the individual cluster effects (deviations from the regression curve) shows the following clusters to be most responsible for the obtained differences:

1. MAT Word Knowledge

Cluster 3B (characterized by a lack of emphasis on the basic techniques of reading instruction and an emphasis on the use of audiovisual equipment and materials) was relatively effective for the total group of CR and NCR students. It was also relatively more effective for CR than for NCR students.

2. MAT Reading

(a) Cluster 2B (characterized by an emphasis on the basic techniques of reading instruction, the use of audiovisual equipment and materials, and instructional flexibility, or the tendency not to select questionnaire options given) was relatively effective for the total group of CR and NCR students. It was also relatively more effective for CR than NCR students.

(b) Cluster 5B (characterized by an emphasis on CR programs offered during time released from other school subjects) was relatively less effective for the total group of CR and NCR students. It was also relatively less effective for CR than NCR students.

3. MAT Total

(a) Cluster 3B (see above) was relatively effective for the total group of CR and NCR students. It was relatively more effective for CR than NCR students.

Posttest variance associated with cluster membership. Analyses of variance and covariance were performed to determine the proportion of reading achievement posttest variance associated with cluster membership under three conditions:

1. with no adjustment for concomitant variables
2. after adjusting for reading achievement pretest and pretest squared

3. after adjusting for reading achievement pretest, pretest squared, latent teacher variables 1, 2, and 3 (see "Addendum to the Phase I Report," pp. 1-4, "Development of the Teacher Variables"), and socioeconomic status (see "Addendum to the Phase I Report," p. 8).

The analyses under condition 3. are similar to those described in the first paragraph of the preceding section ("Analysis of Individual Cluster Effectiveness"), except that the analyses of condition 3. adjust for pretest squared as well as pretest. Differences among eleven clusters were assessed in these analyses. The first ten clusters are those described as 1A, 1B, . . . 5A, 5B in Table 1 of this report, Chapter I. The eleventh cluster is composed of schools which did not obviously belong to any of the first ten. Table 32 shows the results of these analyses.

Table 32

Percentage of Reading Achievement and Attitude Posttest Variance Associated with School Cluster Membership

<u>Test</u>	<u>Grade 2</u>			<u>Grade 4</u>			<u>Grade 6</u>		
	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>
Cooperative Reading	5	4	5	10	5	5	-	-	-
STEP Reading	-	-	-	-	-	-	7	4	4
MAT Word Knowledge	7	2	2	9	6	6	6	8	8
MAT Sentences	5	3	3	-	-	-	-	-	-
MAT Stories	5	3	3	-	-	-	-	-	-
MAT Reading	5	3	3	10	5	5	8	7	6
MAT Total	6	3	3	9	6	6	7	7	7
MAT Total + Coop.	6	4	4	9	5	5	7	6	6
Attitude Toward Reading	3	5	4	4	4	5	10	4	4

Examination of Table 32 shows that, in general, cluster membership accounts for a relatively small percentage of the total reading achievement or attitude toward reading posttest variance.

Relationships of school and reading program characteristics to reading achievement and attitude effectiveness. The curvilinear analysis of covariance described in the "Outcome Differences Among Various Compensatory and Non-Compensatory Student Groups: Reading achievement and attitude toward reading differences" section provided the computational model for the development of reading achievement and attitude toward reading effectiveness scores. These effectiveness scores are defined as posttest scores adjusted for the effects of the corresponding pretest scores and the pretest scores squared. The analysis of the previous section was concerned also with the relationship between program characteristics and effectiveness, and utilized cluster structure as the framework for describing reading programs. This cluster structure emerged from factor analyses of a set of program characteristics questionnaire items, and it was felt that the relationships of individual questionnaire items to effectiveness might reveal additional insights. Therefore, correlations of two types were computed:

- (a) correlations of effectiveness with items from the School Principal Questionnaire, using the school as the item of analysis
- (b) correlations of effectiveness with items from the Class and Program Characteristics Questionnaire, using the class as the unit of analysis

Those correlations whose absolute value equalled or exceeded .15 are presented in Table 33. In assessing the meaning of these data, it should be remembered that the displayed correlations are selected from a very large total set of computed correlations, and that some of them can be expected to be the result of chance.

Table 33

Correlations of School and Reading Program Characteristics with
Reading Achievement and Attitude Effectiveness

<u>School Characteristic</u>	<u>Grade</u>	<u>Corr. with Achievement Effectiveness</u>	<u>Corr. with Attitude Effectiveness</u>	<u>N*</u>
District per pupil ex- penditure previous year	2 4	.28 .26		91 91
School socioeconomic index	2 4	.29 .18		228 224
Basis for determining pupil participation in compensa- tory reading program(s):				
Depressed reading levels (as indicated by test results)	4		.27	222
Teacher (or other staff) recommendation	4		.24	222
Parent request	2 6	-.20 .19		224 189
Total funds allocated for compensatory reading in the school	6	-.15		45
Number of classrooms in the school			.16	185
<u>Program Characteristics</u>				
Frequency with which com- pensatory reading class groups are organized by criteria "other" than reading grade level, spe- cific skill deficiencies, shared interests, and specific projects	2 4 6	-.15 .25 -.32		31 37 37
Time a typical pupil in compensatory reading class spends in matching letters or words	2	-.23		1103

*Variability of N's is due to differential response rates among
questionnaire items.

The correlations displayed in Table 33 do not seem to suggest any general hypotheses concerning the concomitants of effectiveness. In general, they are relatively small, although it should be remembered that effectiveness is a form of residual, and that the effects of pretest (and thus to some extent, the correlates of pretest) have been removed. Correlations with SES and overall district expenditure are positive in grades 2 and 4, although as is always the case with correlational analysis, causation or the direction of causation cannot be inferred. Perhaps the outstanding characteristic of the set of reported correlations is its relatively small size. It would seem that effectiveness is not easily (or at least simply) related to the characteristics of its educational environment, as measured in this phase of the study.

Analyses were also performed to determine the relationships between funding source and school and program characteristics. All schools classified either Total Title I or Partial Title I funded were coded "1," and schools classified Non-Title I were coded "0." Correlations were obtained, separately by grade, between this funding source variable and items from the School Principal Questionnaire and the Class and Program Characteristics Questionnaire. Those correlations whose absolute value equalled or exceeded .15 are presented in Table 34. As in assessing the data of Table 33, it should be remembered that the displayed correlations are selected from a very large total set of correlations, and that some of them can be expected to be the result of chance.

Examination of the school characteristics correlations reported in Table 34 gives, in general, a picture of Title I funding being directed at needy student populations. Thus it can be seen that Title I schools (as compared to Non-Title I schools) are characterized by relatively low socioeconomic status and relatively high cost per pupil of compensatory reading. Their compensatory reading programs have been in existence longer, and pupil membership in specific target groups is more frequently the basis for determining participation in these programs. There are relatively fewer students in Title I schools who need, but do not receive, remedial reading instruction.

Table 34

Correlations of School and Reading Program Characteristics with
Funding Source (Title I vs. Non-Title I)

<u>School Characteristic</u>	<u>Grade</u>	<u>Corr. with Funding Source</u>	<u>N</u>
School size	School	-.18	140
Existence of students who need, but do not receive, remedial reading instruction	School	-.20	142
Number of years existence of compensatory reading program funded by supplementary sources	School	.15	114
Cost per pupil of compensatory reading	School	.15	42
Basis for determining pupil participation in the compensatory reading program: membership in one or more specific target groups (i.e., economically disadvantaged, migrants, non-English speaking)	School	.29	143
Student socioeconomic status	School	-.26	143
Percentage of pupils in compensatory reading class who are members of following racial or national origin groups:			
Oriental	4	.16	112
American Indian	4	.17	113
American Indian	6	.17	94
Teacher expectation of grade level average compensatory reading pupil would reach if given opportunity	2	-.22	130
Teacher expectation of grade level average compensatory reading pupil <u>will</u> reach	2	-.28	130
	4	-.21	127
Availability (frequency) of teacher aides	2	.26	129
	4	.28	126
	6	.24	111
Average amount formal instructional time per student in compensatory reading			
Minutes per instructional period	4	-.21	126
Instructional periods per week	4	.21	127
Time a typical compensatory reading pupil spends on:			
learning letter forms	2	.20	130
learning letter forms	4	.18	130
"other" activities	6	.58	14

Table 34 (cont.)

<u>School Characteristic</u>	<u>Grade</u>	<u>Corr. with Funding Source</u>	<u>N</u>
Special training for teacher in teaching reading or in instructional techniques for disadvantaged pupils	2 4	.16 .16	127 131
Recency of special training (above)	2	.23	95
Amount of in-school time devoted by a typical compensatory reading pupil to:			
Compensatory reading	2	.20	129
Instructional program (if CR program is different from basic instructional program)	2	.19	106
Reading in content areas	4 6	.17 .19	127 113
Independent (self-selected) reading	6	.16	112
Other relevant activities	2 4 6	-.22 .21 .42	24 28 25
Teacher estimate of her success in teaching compensatory reading with respect to:			
Enhancing pre-reading or reading skills	4	-.17	127
Remediating cultural deprivation	2	.16	131
Teacher attitude toward the academic capabilities of disadvantaged pupils	6	.15	111
Frequency of opportunity for compensatory reading pupils to read aloud to teacher or other adult	4	.22	127

*Variability of N's is due to differential response rates among questionnaire items.

The class characteristics correlations suggest that teachers in Title I schools have lower expectations of the educational levels their compensatory reading students could (grade 2) or will (grades 2 and 4) attain. These teachers (in grades 2 and 4) are more apt to have had special training for instructing disadvantaged pupils, and such training has been more recent (in grade 2). They have more favorable attitudes (in grade 6) toward the academic capabilities of disadvantaged pupils, higher estimates of their success (in grade 2) of remediating cultural deprivation, but lower estimates of their success (in grade 4) of enhancing reading skills.

Compensatory reading programs in Title I funded schools are characterized by more frequent availability of teacher aides, fewer minutes per instructional period but more instructional periods per week (in grade 4), and more time spent in learning letter forms (grades 2 and 4) and on "other" activities (grade 6).

Relationship of student movement among classes and duplicate class membership with school and reading program characteristics. The Class Attendance Record provided an option for teachers to record the event of a student leaving a CR class for an NCR class within the same school. From these data, a variable¹ was computed representing the amount of student movement of this type for each school in the Phase II sample. For NCR schools, which of course had no CR classes, the variable represented the amount of student movement from one NCR class to another. Duplicate class membership was defined for each school as the number of students enrolled in two or more reading classes on the same day divided by the total number of reading students. This proportion was transformed in the same way as was the student movement variable.¹

These variables were correlated, using the school as the unit of analysis, with a variety of school and reading program characteristics defined by questionnaire items. All correlations having an absolute value of .20 or greater are shown in Table 35.

In interpreting the correlations presented in Table 35, it should be remembered that they are the largest of a very large total set, and as such are to some extent the result of chance. In general, the "duplicate class membership" variable correlates more frequently with questionnaire items than does the "student movement" variable. Certain of the duplicate class membership correlations are simply expected physical or fiscal concomitants of offering students multiple exposure to treatment:

- greater total funds allocated for compensatory reading
- greater per pupil expenditure
- less frequent occurrence of larger class groups

$$^1 P_1^* = \ln \left(\frac{P_1}{1 - P_1} \right), \text{ where } P_1 = \frac{\text{number of moves} + 1/2}{\text{number of opportunities to move} + 1}$$

Table 35

Correlations of Student Movement and Duplicate Class Membership with
School and Reading Program Characteristics

<u>Characteristic</u>	<u>Grade</u>	<u>Corr.with Student Movement</u>	<u>N</u>	<u>Corr.with Duplicate Class Membership</u>	<u>N</u>
Total funds allocated for compensatory reading in the school	2 4 6			.29 .25 .33	49 52 81
District per pupil expenditure last year	4			.21	89
Basis for determining pupil participation in compensatory reading program(s): depressed reading levels	2 4 6			.23 .26 .21	229 225 193
Teacher (or other staff) recommendation	2 4	.21	225	.24 .23	229 225
Average number of instruction periods per week per student in compensatory reading	2 4			-.21 -.21	171 167
Frequency of occurrence of "adult and children in groups of more than 20 (includes whole class instruction)"	2 4			-.37 -.21	156 156
Frequency of occurrence of "adult and children in groups of between 11 and 20"	4			-.25	154
Teacher satisfaction with materials currently using in teaching compensatory reading	2 4			.24 .21	171 167
Special training for teachers in teaching of reading or in instructional techniques for disadvantaged pupils	4			.21	167
Degree of success teacher considers her teaching of compensatory reading to have with respect to:					
enhancing pre-reading or reading skills	6	-.22	125		
improving attitudes toward reading	6	.21	125		

Table 35 (cont.)

<u>Characteristic</u>	<u>Grade</u>	<u>Corr.with Student Movement</u>	<u>N</u>	<u>Corr.with Duplicate Class Membership</u>	<u>N</u>
For a typical compensatory reading pupil, amount in school time devoted to:					
basic reading instructional program	2	-.21	160	-.25	160
instructional program (only 2 if compensatory reading program is different from basic instructional program)	4	.21	118	.27	110
reading in content areas	2			-.30	160
independent (self-selected) reading	2			-.28	163
other relevant activities	2			.20	24
	4	.21	25		
	6			-.30	15
Frequency of organizing compensatory reading class into groups by criteria "other" than reading level, specific skill deficiencies, shared interests, and specific projects	2	.51	12	.20	12
	4			.45	14
Frequency of organizing compensatory reading class into groups by specific projects	6	-.30	100		
Who selected materials used in teaching of compensatory reading:					
teacher, as a member of a team or committee	2			.26	171
"other"	2			-.25	171
Amount of time a typical compensatory reading pupil spends on:					
increasing attention span	2			.22	169
phonic and/or structural analysis	2	-.23	169		
being read to	2			-.35	168

Table 35 (cont.)

<u>Characteristic</u>	<u>Grade</u>	<u>Corr.with Student Movement</u>	<u>N</u>	<u>Corr.with Duplicate Class Membership</u>	<u>N</u>
Amount of time a typical compensatory reading pupil spends on: (cont.)					
reading aloud	2			-.21	169
reading silently (independent silent reading)	2			-.20	167
creative writing	2	-.25	168	-.32	168
"other"	4			.36	166
Time since first compensatory reading program funded by supplementary sources made available in school	4			.21	147
Extent to which basal readers used in teaching compensatory reading	4 6			.21	165
		-.30	124		

However, there also seemed to be some positive correlations of duplicate class membership with school and program characteristics which many would judge to be desirable:

 high teacher satisfaction with currently used compensatory reading materials

 special training for teachers

 longer time since first compensatory reading program funded by supplementary sources was made available in the school

One might hazard the hypothesis that duplicate student class membership is a positive characteristic of schools which are making generally positive efforts in the area of reading instruction.

The correlations with student movement are less frequent and seem to present a less coherent picture. The only correlation of outstanding magnitude is .51 with frequency of organizing compensatory reading classes into groups by criteria "other" than those presented as questionnaire options. It might be hypothesized that these "other" criteria are typically more flexible and thus their application results in a greater amount of student reassignment, as dictated by their individual progress.

Student movement in and out of reading programs was also analyzed by cluster and by grade within cluster. These data represent the proportion of students enrolled in compensatory classes who move from such classes during each month of the school year. By and large, the amount of movement is very small. In most cases in which movement is reported, it amounts to about one percent of the compensatory students; in some instances, there is no movement at all. In only one cluster, cluster 4A, does the movement involve as many as eight percent of the students and that in one grade (6) during one month of the school year, the second. Cluster 4A, it will be recalled, is characterized by schools which emphasize supplementary reading activities. The data seem to indicate that once students are assigned to compensatory classes, they tend to stay in them, and that not much difference exists among the various clusters with respect to the practices that affect student movement. (It is also possible that such variation as exists is among individual schools rather than among clusters, and that the cluster scores tend to obscure the differences among schools. Even so, the absolute level of the movement is not high.)

The proportion of students in duplicate classes also was analyzed by cluster and by grade within cluster. Examination of these data reveals that, with respect to attendance by compensatory students at more than one reading class, there are distinct differences among clusters and sometimes among grades within clusters. Clusters exhibiting moderately high levels of duplicate class attendance are 1A, 2B, and 5B. Cluster 1A is characterized by schools emphasizing the use of audiovisual equipment and the scheduling of compensatory reading instruction during time released from other school subjects. The moderately high proportion of students attending duplicate reading classes would seem to indicate that the time released from other school subjects is not released from reading instruction. Within the cluster, attendance at duplicate classes is highest for the second grade students and lowest for the sixth. Cluster 2B is characterized by schools having an emphasis on basic reading activities and audiovisual aids and a tendency not to select questionnaire options given. In this cluster,

the relatively high degree of attendance at duplicate classes is higher for students in grades 2 and 4 than for students in grade 6. Finally, cluster 5B is comprised of schools characterized by compensatory programs offered during time released from other subjects. Clearly, regular reading instruction is not sacrificed to the compensatory instruction offered during released time among these schools. This cluster shows the highest levels of attendance at duplicate classes for all of the clusters, at least for grades 2 and 4. In some months, more than 30% of the second and fourth grade compensatory reading students attended more than one reading class. Interestingly, the sixth grade levels for the cluster were relatively low (four and five percent overall), indicating that most of the concentrated compensatory effort took place in the lower grades. It has been hypothesized that many of the compensatory programs involving reading labs belong to this cluster; if this is indeed the case, it can be concluded that many students who attend reading labs get additional instruction in a classroom.

In addition to the three clusters described above, cluster 3A showed moderate attendance at duplicate classes in the second grade. Cluster 3A schools are characterized by an emphasis on basic reading activities and a de-emphasis on audiovisual aids.

Throughout the clusters, regardless of the absolute amount of attendance at more than one class, duplicate attendance tends to be greatest in the second grade and least in the sixth grade. If duplicate classes are postulated to represent a concentration of instructional treatment on the students in question, then there is evidence in these data that compensatory instruction is indeed heaviest in the lower grades.

Student exposure to reading treatment among clusters. The same set of cluster comparisons described in the "Analysis of individual cluster effectiveness" section of this report were tested using (a) days present per school year in a reading class period (regardless

of its length), and (b) total minutes present per school year in reading instruction (regardless of the number of class periods) as dependent variables. Analyses of variance (A) eliminating the funding category effect, and (B) ignoring the funding category effect were performed separately by grade, with class means as the unit of analysis. Outcomes of the joint tests of the set of cluster category comparisons for both types of analysis (A and B) are shown in Table 36A, and the cluster means in Table 36B.

Table 36A
Student Exposure to Reading Treatment Among
Clusters: Significance Tests

Grade	Analysis Type	Criterion	F	D.F.	Prop.of Variance Explained By Comparisons
2	A	Days present	1.9 ¹	(11,206)	.09
	B	Days present	1.9 ¹	(11,210)	.09
	A	Minutes present	3.2 ³	(11,206)	.15
	B	Minutes present	3.0 ²	(11,210)	.14
4	A	Days present	2.1 ¹	(11,197)	.10
	B	Days present	2.1 ¹	(11,201)	.11
	A	Minutes present	NS		
	B	Minutes present	NS		
6	A	Days present	NS		
	B	Days present	NS		
	A	Minutes present	NS		
	B	Minutes present	NS		

¹.05 level

².01 level

³.001 level

Table 36B

**Student Exposure to Reading Treatment Among
Clusters: Cluster Means**

Cluster	Grade 2		Grade 4		Grade 6	
	Days Present	Minutes Present	Days Present	Minutes Present	Days Present	Minutes Present
1A	139.2	4392	134.6	5380	134.7	4611
1B	123.6	3272	123.6	4900	123.8	4121
2A	125.7	3988	121.5	3843	121.7	4903
2B	138.3	4396	135.9	4127	129.8	5465
3A	135.0	5214	130.6	4470	128.6	4433
3B	128.4	6929	132.3	5504	130.1	5180
4A	126.3	7586	127.3	5353	122.5	5242
4B	117.0	2946	115.3	3671	118.5	2942
5A	128.9	4681	126.2	4121	121.2	3878
5B	142.7	5420	142.0	4606	132.3	6128
11	134.0	4287	131.7	5432	127.8	5069

Reference to the individual cluster effects reveals that the following clusters were primarily responsible for the obtained differences:

1. Days present in grade 2
 - (a) Cluster 1B (characterized by lack of emphasis on released time for compensatory reading instruction and use of audiovisual equipment and materials) was relatively low.
 - (b) Cluster 4B (characterized by lack of emphasis on supplementary reading activities) was relatively low.
 - (c) Cluster 5B (characterized by compensatory reading programs offered during time released from other subjects) was relatively high.
2. Minutes present in grade 2
 - (a) Cluster 4B (characterized by lack of emphasis on supplementary reading activities) was relatively low.
 - (b) Cluster 4A (characterized by emphasis on supplementary reading activities) was relatively high.
3. Days present in grade 4

- (a) Cluster 2B (characterized by emphasis on basic reading activities, use of audiovisual equipment and materials, and instructional flexibility or the tendency not to select questionnaire options given) was relatively high.
- (b) Cluster 4B (characterized by lack of emphasis on supplementary activities) was relatively low
- (c) Cluster 5B (characterized by compensatory reading programs offered during time released from other subjects) was relatively high.

Reference to Tables 36A and 36B show that differences in student exposure to treatment tended to occur at the lower grade levels, suggesting that compensatory programs vary more among schools in grade 2. Individual cluster variations tended to be consistent across the grade levels at which they occurred (e.g., cluster 5B was relatively high at both the second and fourth grade level). Emphasis on supplementary reading activities appeared to be a major factor in relatively high student exposure to reading treatment, as did the practice of offering compensatory reading programs during time released from other subjects.

Comparisons Among Instructional Patterns of Compensatory Programs

Information was obtained from the Program Characteristics Questionnaire regarding when compensatory reading instruction was carried out. It was thus possible to classify the instruction of each class as follows:

1. during regular school hours in time scheduled for regular reading instruction
2. during regular school hours in time released from other class work
3. before or after school or on weekends
4. during the summer
5. other

By examining the pattern of classifications into which the classes of each compensatory reading school fell, separately by grade, it was possible to categorize the compensatory reading instruction for each school for each grade as follows:

1. during regular reading instruction time only
2. partly during regular reading instruction time and partly during time released from other class work
3. during time released from other class work
4. any pattern of instructional times other than the three above, including during the summer and all other unspecified times

Analyses were conducted to determine whether schools classified according to the preceding four instructional patterns differed with respect to any of the following variables:

1. teacher's experience
2. teacher's satisfaction with his/her administration
3. teacher's attitude toward the academic capabilities of disadvantaged pupils
4. Reading Program Index I (emphasis on basic reading activities)
5. Reading Program Index II (use of audiovisual equipment and materials)
6. Reading Program Index III (emphasis on supplementary reading activities)
7. Reading Program Index IV (instructional flexibility--tendency not to select questionnaire options given)
8. Reading Program Index V (compensatory reading program offered during time released from other school subjects)
9. socioeconomic status of students

Table 37 shows the results of these covariance analyses. In each case a single comparison between instructional patterns is tested, with the effects of grade and the remaining instructional pattern comparisons removed. The unit of analysis is the class. The comparisons tested, are, in terms of the previously described four categories of compensatory reading offerings:

- a. 1 vs. 2
- b. 1 vs. 3
- c. average of 1 and 4 vs. average of 2 and 4

Table 37
Differences Among Schools Having Various Patterns of
Compensatory Reading Instruction

<u>Comparison*</u>	<u>Dependent Variable**</u>	<u>Sig. Level of Difference</u>	<u>Prop. of Variance Explained By Comparisons</u>	<u>Direction of Difference*</u>
1 vs. 2	3	.02	.01	1 > 2
1 vs. 2	4	.00	.04	2 > 1
1 vs. 2	5	.00	.05	1 > 2
1 vs. 2	7	.00	.04	1 > 2
1 vs. 2	8	.00	.02	2 > 1
1 vs. 3	4	.00	.12	3 > 1
1 vs. 3	5	.00	.25	1 > 3
1 vs. 3	7	.00	.02	1 > 3
average 1 & 3 vs. average 2 & 4	3	.04	.01	av. 1 & 3 > av. 2 & 4
average 1 & 3 vs. average 2 & 4	4	.01	.01	av. 1 & 3 > av. 2 & 4
average 1 & 3 vs. average 2 & 4	5	.00	.05	av. 2 & 4 > av. 1 & 3
average 1 & 3 vs. average 2 & 4	6	.00	.02	av. 2 & 4 > av. 1 & 3
average 1 & 3 vs. average 2 & 4	8	.00	.03	av. 2 & 4 > av. 1 & 3

*refer to preceding list of comparisons

**refer to preceding list of dependent variables

Reference to Table 37 shows that the comparison of schools offering compensatory reading only during the regular reading period with schools offering compensatory reading during a variety of times (1 vs. 2) results in significant differences on a number of variables. "Regular reading period" schools are higher on (1) teacher experience, (2) use of audiovisual materials, and (3) instructional flexibility, or the tendency not to select questionnaire options given. They are lower on (1) emphasis on basic reading instruction, (2) emphasis on supplementary reading instruction, and (3) offering of compensatory reading instruction during time released from other school subjects (obviously an artifact of the category definition).

When the preceding comparison is simplified to "regular reading period" school vs. "released time schools" (1 vs. 3), three of the preceding significant differences remain significant: (1) emphasis on basic reading activities, (2) use of audiovisual materials, and (3) instructional flexibility. Moreover, the differences are in the "same" direction; i.e., "regular reading period" schools are low on the first, and higher on the latter two variables.

The third comparison contrasted the average of those schools offering the more common patterns of instruction (either during regular reading or during time released from other subjects) with the average of schools offering any other pattern. The "more common pattern" schools were higher on (1) teacher attitude toward the academic capabilities of disadvantaged pupils, and (2) emphasis on basic reading activities. They were lower on (1) use of audiovisual equipment, (2) emphasis on supplementary reading activities, and (3) offering of compensatory reading instruction during time released from other school subjects (a contraintuitive finding at variance with the definition of the category).

The foregoing analyses removed the effect of grade. Additional analyses, also using the class mean as the unit of analysis, were performed to assess the grade effect upon the same set of dependent variables. Table 38 shows the results of these analyses.

Table 38

Differences Among Grades (Within Schools) Having Various Patterns of Compensatory Reading Instruction

<u>Comparison</u>	<u>Dependent Variable*</u>	<u>Sig. Level of Difference</u>	<u>Direction of Difference</u>
gr. 2 vs. aver. gr. 4 & 6	2	.05+	gr. 2 > av. 4 & 6 gr. 4 > gr. 6
gr. 4 vs. gr. 6	3	.04	gr. 2 > av. 4 & 6 gr. 4 > gr. 6
	6	.00	av. gr. 4 & 6 > gr. 2 gr. 6 > gr. 4

*refer to preceding list of dependent variables

Inspection of Table 38 reveals that teacher attitudes both toward their administrations and toward the academic capabilities of disadvantaged pupils tend to grow less positive as one progresses upward through grades 2, 4, and 6. However, emphasis on supplementary reading activities tends to increase at the higher grade levels. The latter finding seems to support the hypothesis that teachers at lower grade levels are primarily concerned with the "basics" of reading, but diversify their instruction into supplemental areas at the higher grade levels. The finding that teachers at the lower grade levels have more positive feelings about the academic capabilities of disadvantaged students is consistent with the fact that younger disadvantaged students have had less time to display the negative effects of their disadvantage. Perhaps the more positive attitudes of lower grade teachers toward their administration is an indication that administrators also have greater aspirations for students in the lower grade levels, and focus the bulk of their support and encouragement there.

In order to explore more fully the relationships among instructional patterns as they relate to funding source categories, additional analyses were performed. Analyses of variance were carried out in which the independent variables were (a) the three comparisons among instructional patterns described on page 164 and (b) the three comparisons among funding categories described on page 174. Dependent variables were, in turn, variables 1-8 listed on page 164. The unit of analysis was the school mean. The instructional pattern x funding category interactions were not significant for any of the teacher characteristics or program characteristics. This indicates that the differences among schools having various patterns of compensatory reading instruction do not vary according to school funding category.

Outcomes in "Noteworthy" School Sample

As described in the "Selection of Noteworthy Schools" section of this report, a group of reading programs in 34 schools were selected as exemplifying a variety of noteworthy instructional approaches. Curvilinear analyses of covariance, similar to those described in the "Outcome Differences Among CR/NCR Categories," were performed separately

by grade, comparing the group of "noteworthy" schools to all others in the Phase II sample. The unit of analysis was the class mean for compensatory reading students. Table 39A shows the results of these analyses.

Inspection of Table 39A reveals several significant differences on reading achievement subtests in grade 2, and two significant differences in each of grades 4 and 6. All differences in reading achievement gain favored the "other" group, and there were no significant differences in attitude toward reading at any grade level.

In interpreting these results, one important aspect of the way "noteworthy" programs were selected should be kept in mind. The final determination of which programs to include was made primarily to ensure a wide variety of instructional approaches. Program effectiveness in terms of student outcomes was not a selection criterion.

In order to gain further insight into these results, analyses similar to those reported in Table 39A were performed for the combined CR/NCR student populations in these schools. It was reasoned that the noteworthy reading programs might very well have spinoff effects on all students in their respective schools, rather than primarily on CR students only. Table 39B shows the results of these analyses.

Inspection of Table 39B reveals no significant differences between the groups in grade 2, significant differences on two of the reading achievement subtests in grade 4, and significant differences on all reading achievement subtests in grade 6. All significant differences in reading achievement gain favored the "other" group, although the only significant difference in attitude toward reading favored the "noteworthy" group at the second grade level.

Apart from the fact that the "noteworthy" programs were not chosen with achievement effectiveness directly in mind, one other possible explanation for the above pattern of results comes to mind. If the "noteworthy" approaches emphasized instructional outcomes other than those represented in the achievement test battery administered, this

Table 39A
Gain in Reading Achievement and Attitude Toward Reading in Moteworthy vs. All Other Schools:
Compensatory Reading Students

Grade 2	Comparison	Criterion	F(1,189)	Direction of Difference	Proportion of Var'iance Explained by Comparison	N of Items in Criterion	Pretest		Posttest	
							1	2	1	2
Moteworthy vs. all other schools	MAT Word Knowledge		8.8 ²	other > noteworthy	.04	35	19.7	21.9	27.0	29.6
			10.4 ²	other > noteworthy	.05	13	6.4	7.9	9.6	10.6
	MAT Sentences		NS			29	11.0	11.2	17.9	19.8
	MAT Stories		4.8 ¹	other > noteworthy	.02	42	17.3	18.7	27.5	30.4
	MAT reading		6.5 ¹	other > noteworthy	.03	77	37.1	40.6	54.5	60.0
	MAT Total		NS			50	19.2	20.0	28.5	30.9
	Cooperative Reading ^a		NS			127	75.5	60.6	83.1	90.9
Grade 4	MAT Word Knowledge		NS			15	2.02	2.41	2.49	2.54
			F(1,186)							
	MAT Reading		5.9 ¹	other > noteworthy	.03	50	18.2	21.8	24.0	28.5
	MAT Total		4.4 ¹	other > noteworthy	.02	45	15.4	17.4	19.0	22.3
	Cooperative Reading		NS			95	33.6	39.2	43.1	50.9
	MAT Total + Coop. Reading		NS			50	24.1	27.4	31.3	34.0
	Attitude Toward Reading		NS			145	57.3	66.4	74.4	84.9
Grade 6	MAT Word Knowledge		NS			25	-0.47	-0.43	-0.55	-0.60
			F(1,149)							
	MAT Reading		3.9 ¹	other > noteworthy	.03	50	29.0	32.9	33.3	37.0
	MAT Total		NS			45	21.5	24.4	25.1	28.4
	STEP II Reading		4.0 ¹	other > noteworthy	.03	95	50.5	57.3	54.4	65.4
	MAT Total + STEP Reading		NS			60	24.5	27.7	28.0	31.8
	Attitude Toward Reading ^a		NS			155	75.2	85.1	86.3	97.2
1 .05 level		2 .01 level		3 .001 level						

^a1" indicates noteworthy schools, "2" indicates all other schools

^aNon-parallel regression curves

Table 398
Gain in Reading Achievement and Attitude Toward Reading in Noteworthy vs. All Other Schools:
Combined CR/MCR Student Populations

Grade 2		F(1,229)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest		Posttest	
Comparison	Criterion					1	2	1	2
Noteworthy vs. all other schools	MAT Word Knowledge	NS			35	21.9	26.3	28.8	31.8
	MAT Sentences	NS			13	7.1	8.9	10.4	11.6
	MAT Stories	NS			29	12.2	16.4	19.8	23.4
	MAT Reading	NS			42	19.3	25.3	30.1	35.0
	MAT Total	NS			77	41.3	51.7	59.0	66.8
	Cooperative Reading	NS			50	20.3	26.1	31.0	36.6
	MAT Total + Coop. Read.	NS			127	61.7	77.8	90.9	103.4
Attitude Toward Reading		F(1,225)			15	2.22	2.54	2.51	2.63
Grade 4 Noteworthy vs. all other schools	MAT Word Knowledge	NS			50	26.9	30.7	29.6	34.0
	MAT Reading	7.7 ²	Other > noteworthy	.03	45	19.1	24.0	23.3	28.7
	MAT Total	3.9 ¹	Other > noteworthy	.02	95	43.0	54.7	53.0	64.8
	Cooperative Reading	NS			52	28.5	33.8	34.8	39.0
	MAT Total + Coop. Read.	NS			145	71.6	88.6	87.8	95.8
	Attitude Toward Reading	F(1,224)			25	-0.77	-0.96	-0.88	-1.14
		6.0 ²	Noteworthy > Other	.03					

Table 398 (cont.)

Grade 6		Comparison	Criterion	F(1,190)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Score Means			
1	2							1	2		
										Pretest	Posttest
		Noteworthy vs. all other schools	MAT Word Knowledge ^a	5.1 ¹	Other > noteworthy	.03	50	33.7	39.9	36.5	42.2
			MAT Reading	7.9 ²	Other > noteworthy	.04	45	35.7	31.6	28.2	33.9
			MAT Total	7.7 ²	Other > noteworthy	.04	95	59.4	71.5	64.7	76.1
			STEP II Reading	8.6 ²	Other > noteworthy	.04	60	29.9	36.8	32.5	39.7
			MAT Total + STEP Read.	9.6 ²	Other > noteworthy	.05	155	89.4	108.3	97.3	115.9
		Attitude Toward Reading		F(1,189)							
				NS			25	-0.89	-1.00	-0.86	-1.04

might adversely affect the measured achievement of their students. While this could certainly be said about all programs in the study sample, it might apply with particular force to programs selected for the non-routine characteristics of their instructional procedures.

Outcome Differences Among Funding Categories

Relationships of funding category to program characteristics (cluster membership). By means of responses to the School Questionnaire, it was possible to categorize schools according to their source of funds for compensatory reading programs: (a) Total Title I, (b) Partial Title I, (c) Non-Title I, or (d) funding information not available (see the Phase I Report, p. 49, for a more complete definition of these categories). Table 40 shows the percentages of Phase II schools in each cluster (see Chapter I of this report for a description of reading program clusters), and in each funding category. It should be noted that these percentages do not sum to 100% since some schools, which for various reasons of data insufficiency cannot be placed in a cluster, are not included in the table.

Table 40
Percentages of Phase II Schools in Reading Program Clusters
and Funding Categories

Funding Category	Cluster										
	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	11
Total Title I	10.2	15.3	12.2	11.2	7.1	1.0	6.1	3.1	8.2	7.1	6.1
Partial Title I	13.6	27.3	9.1	4.5	4.5	13.6	4.5	0.0	9.1	0.0	9.1
Non-Title I	17.2	10.3	31.0	0.0	13.8	6.9	0.0	0.0	3.4	0.0	13.8
Unclassifiable	8.4	5.9	14.3	3.4	6.7	6.7	4.2	0.0	6.7	1.7	9.2
Total I	10.4	11.6	14.9	6.0	7.5	5.2	4.5	1.1	7.1	3.4	8.6
Total N	28	31	40	16	20	14	12	3	19	9	23

A chi square test of the Table 40 data was not appropriate, because several of the expected cell frequencies were too small. Collapsing of categories was not a useful solution to this problem, since it would obscure the information of interest. However, it can be seen from inspection of the percentages in Table 40 that disproportionalities¹ do exist, especially in the first four clusters. It can be seen that the positive pole (1A) of the first bipolar cluster has an overrepresentation¹ of Non-Title I schools (17.2% as compared to 10.4% for the cluster as a whole), while the negative pole (1B) has an overrepresentation of Partial Title I schools. Since cluster 1A is characterized by an emphasis on the use of audiovisual equipment and released time instruction and 1B by a deemphasis, it would seem that a disproportionate number of schools emphasizing use of such equipment are Non-Title I funded, while a disproportionate number of schools deemphasizing such use are Partial Title I funded. It should be also noted that Total Title I schools are slightly overrepresented in cluster 1B. Clusters 2A and 2B exhibit a somewhat similar pattern, with a disproportionate number of cluster 2A schools being non-Title I funded, and a disproportionate number of cluster 2A being Total Title I funded. (The instructional practices in clusters 2A and 2B are not clearly defined, but the reader is referred to p. 47 of the Phase I Report for a more comprehensive description.) A similar pattern occurs again in clusters 3A and 3B, with schools concentrating their efforts on the basic techniques of reading instruction having a relatively heavy representation of Non-Title I schools, and schools deemphasizing the basic technique but emphasizing this use of audiovisual materials having a relatively heavy representation of Partial Title I schools.

Gain in reading achievement and attitude toward reading differences among funding categories. Using the same four funding categories as were used in the previous set of analyses, achievement and attitude results were related to funding source. It should be noted that the categorization does not reflect the amount of funding, but

¹ see footnote p. 61

only its presence or absence, regardless of amount. The following set of three comparisons was formed from the four funding categories:

1. Total Title I vs. Partial Title I [group (a) vs. group (b) above]
2. Title I vs. Non-Title I [groups (a) and (b) vs. group (c) above]
3. Classifiable vs. unclassifiable schools [groups (a), (b), and (c) vs. group (d) above]

Curvilinear analyses of covariance were performed, separately by grade, using posttest scores on each of the reading achievement subtests and on the attitude toward reading measures as dependent variables. The unit of analysis was the school mean of the appropriate grade level, and the covariates were the corresponding reading achievement or attitude pretest scores and the pretest scores squared. No significant (at the .05 level or higher) differences were found for any of the comparisons described above, for any of the reading achievement scores, at any of the three grade levels. In order to provide a more sensitive test of the effect of funding source upon reading achievement, the analyses described above were performed removing the CR/NCR effects. The results were the same, with no significant funding source differences being found at any of the three grade levels. Moreover, none of the funding category x CR/NCR grouping were significant, indicating that the relationships among funding categories were not different for any of the CR/NCR subgroups.

Curvilinear analyses of covariance (not removing CR/NCR effects) were performed using attitude toward reading as the dependent variable. Two significant differences were found:

1. Total Title I schools > Partial Title I schools in grade 2
[$p = .01$; $F = 6.3$ (1, 193 D.F.); proportion of variance explained by the comparison = .03]
2. Classifiable schools > unclassifiable schools in grade 4
[$p = .05$; $F = 3.8$ (1, 193 D.F.); proportion of variance explained by the comparison = .02]

In the Phase I Report of this project (page 54), it was suggested that Partial Title I schools are more disadvantageded economically and educational than are Total Title I schools. If this holds true for Phase II schools, then it would seem that second grade students in the more advantaged schools have larger gains in attitude toward reading. This seems to be in part consistent with the findings of the "Outcome Differences Among CR/NCR Categories" section of this report which showed second grade NCR combined students to have greater attitude toward reading gains than did CR combined students.

In order to understand more fully the achievement and attitude gain differences among funding source categories, analyses of variance of pretest achievement and attitude scores were performed. Table 39 shows the results of these analyses.

Reference to Table 41 shows a moderate number of pretest differences among various funding source categories. Regardless of grade level, students in Partial Title I schools had higher average achievement pretest scores than did students in Total Title I schools. Thus it would seem that the educational advantage of Total over Partial Title I schools referred to above and in the Phase I Report is an advantage in terms of instructional resources but not student achievement. Title I and Non-Title I schools seem to have similar achievement pretest scores except for a few higher subtest results in grade 6 favoring the Non-Title I schools. In general, it seems that there are a moderate number of preexisting achievement differences among funding categories, and that the year of treatment spanned by the data of this study did not measurably alter these differences. If it can be hypothesized that various disadvantaged subgroups were falling progressively farther behind in reading achievement prior to the 1972-1973 school year, then these results could be interpreted as an indication that this trend had been arrested.

Attitude differences were, in general, not significant except for a moderate difference favoring Total Title I schools over Partial Title I in grade 4.

Table 41

Pretest Differences in Reading Achievement and Attitude Toward Reading Among Funding Categories

Grade 2	Comparison	Criterion	F(1,421)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means	
							1	2
Total Title I vs. Partial Title I	MAT Word Knowledge	MAT Word Knowledge	4.7 ¹	Partial Title I > Total Title I	.01	35	23.2	25.7
							7.8	8.4
							13.8	15.5
							21.7	24.0
							44.8	49.6
							22.8	24.7
							67.6	74.4
Title I vs. Non-Title I	MAT Word Knowledge	MAT Word Knowledge	NS	Partial > Total	.01	15	4.4	4.5
							24.5	26.2
							8.1	8.8
							14.7	16.0
							22.9	24.9
							47.2	51.1
							23.8	25.8
							71.0	76.9
							4.5	4.6

Table 41 (cont.)

Grade 2 (cont.)

Comparison	Criterion	F(1,421)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means
Classifiable vs. Non-classifiable schools	MAT Word Knowledge	4.3	Non-class. > Classifiable	.01		25.0 26.1
	MAT Sentences	NS				8.3 8.7
	MAT Stories	4.1 ¹	Non-class. > Classifiable	.01		15.1 16.0
	MAT Reading	NS				23.5 24.7
	MAT Total	4.1 ¹	Non-class. > Classifiable	.01		48.5 50.8
	Cooperative Reading	NS				24.4 25.1
	MAT Total + Coop. Reading	3.9 ¹	Non-class. > Classifiable	.01		73.0 76.0

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Grade 4

Total Title I vs. Partial Title I	Attitude Toward Reading	NS				4.5 4.5
	MAT Word Knowledge	12.7 ³	Partial > Total	.03	50	25.8 29.1
	MAT Reading	13.1 ³	Partial > Total	.03	45	20.5 22.8
	MAT Total	13.3 ³	Partial > Total	.03	95	46.4 52.0
	Cooperative Reading	10.7 ³	Partial > Total	.03	50	30.2 32.4
	MAT Total + Coop. Reading	12.8 ³	Partial > Total	.03	145	76.7 84.5

Attitude Toward Reading	F(1,394)	4.1 ¹	Total > Partial	.01	25	-1.8 -1.9
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Total Title I vs. Non-Title I	MAT Word Knowledge	NS				27.5 29.6
	MAT Reading	NS				21.7 23.0
	MAT Total	NS				49.2 52.6
	Cooperative Reading	NS				31.3 33.0

Table 41 (cont.)

Grade 4 (cont.)

Comparison	Criterion	F(1,409)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means
(cont.)						1 2
	MAT Total + Coop. Reading	NS				80.6 85.6
	Attitude Toward Reading	F(1,394)				-1.8 -1.8
		NS				
	MAT Word Knowledge	NS				28.2 29.4
	MAT Reading	NS				22.1 23.0
	MAT Total	NS				50.3 52.4
	Cooperative Reading	NS				31.9 32.8
	MAT Total + Coop. Reading	NS				82.3 85.3
	Attitude Toward Reading	F(1,394)				-1.8 -1.9
		NS				
	MAT Word Knowledge	F(1,350)	Partial > Total	.01	50	35.9 37.9
	MAT Reading	4.5 ¹	Partial > Total	.02	45	27.9 30.0
	MAT Total	6.2 ¹	Partial > Total	.02	95	63.8 67.9
	STEP II Reading	5.5 ¹	Partial > Total	.02	60	32.3 34.6
	MAT Total + STEP Read.	6.9 ²	Partial > Total	.02	155	96.1 102.6
	Attitude Toward Reading	6.3 ¹	Partial > Total			-1.8 -1.9
		F(1,345)			25	
		NS				

Grade 6

Total
Title I
vs.
Partial
Title I

Table 41 (cont.)

Grade 6 (cont.)

Comparison	Criterion	F(1,350)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Pretest Raw Score Means	
						1	2
Title I vs. Non-Title I	MAT Word Knowledge	4.4 ¹	Non-Title I > Title I	.01		36.9	39.6
	MAT Reading	NS				29.0	31.2
	MAT Total	4.1 ¹	Non-Title I > Title I	.01		65.9	70.8
	STEP II Reading	NS				33.5	35.9
	MAT Total + STEP Read.	NS				99.4	106.7
Classifiable vs. Non-classifiable schools	Attitude Toward Reading	F(1,345) NS				-1.8	-1.9
	MAT Word Knowledge	NS				38.5	39.1
	MAT Reading	NS				30.2	30.5
	MAT Total	NS				68.4	68.6
	STEP II Reading	NS				34.8	35.1
1.05 level	MAT Total + STEP Read.	NS				103.6	104.7
	Attitude Toward Reading	F(1,345) NS				-1.9	-1.9
		2.01 level			3.001 level		

"1" indicates the first group mentioned in the "comparison" column, "2" indicates the second.

Student movement and student duplicate class membership among funding categories. Analyses of variance, using the same set of funding category comparisons described in the "Gain in reading achievement and attitude toward reading differences among funding categories" section of this report, were performed separately by grade. The unit of analysis was the school mean, and the dependent variables were the "student movement among classes" and the "duplicate class membership" variables described in the "Relationship of student movement among classes and duplicate class membership with school and reading program characteristics" section. No significant differences were found for any of the comparisons, for either of the dependent variables, at any of the grade levels. Thus it appears that source of compensatory reading funding cannot be related to student movement or duplicate class membership via the data of this study.

Student exposure to compensatory reading treatment among funding categories. The same set of three funding category comparisons described in the previous section were tested using (a) days present per school year in a compensatory reading class period (regardless of its length), and (b) total minutes present per school year in compensatory reading instruction (regardless of the number of class periods) as dependent variables. Analyses of variance, eliminating the cluster effect in order to increase the sensitivity of the funding category comparisons, were performed separately by grade, with class means as the unit of analysis. Joint tests of the set of funding category comparisons showed that no statistically significant differences among funding categories occurred for either of the dependent variables at any of grade levels 2, 4, or 6. Similar analyses without eliminating the cluster effect are operationally possible, but were not performed, since they would have less sensitivity and therefore no possibility of showing significant differences among funding categories. Analyses removing both cluster and CR/NCR effects were considered, but not performed because such a cross-classification of the data resulted in too many empty cells to allow meaningful interpretation.

Relationship of educational disadvantage and economic disadvantage, by funding category. Counts were obtained, separately by grade in CR schools, of the numbers of students falling into each cell of a four-way classification:

1. educational advantage/disadvantage (two categories: low--reading one or more years below grade level; high--reading less than one year below grade level; grade level equivalents defined in terms of the MAT Total pretest score, with 2.1, 4.1, and 6.1 considered to be "grade level" for grades 2, 4, and 6, respectively)
2. economic advantage/disadvantage (two categories: low--participation in school free lunch program; high--non participation in school free lunch program; data obtained from Student Questionnaire)
3. school funding category (four categories: total Title I, partial Title I, non-Title I, unclassifiable)
4. CR/NCR student group (four categories: CR separate classes, NCR separate classes, CR combined classes, and NCR combined classes)

It was found that almost no second graders were reading one or more years below grade level, a not surprising finding in view of the floor of the measures, the effects of chance response, and the fact that such a result would put them one year below grade level at the end of one year of study. Table 42 shows the results for grades 4 and 6.

Of particular interest in this analysis is the definition of educational advantage/disadvantage in terms of the achievement pretest data of the study, as well as by the judgment of school personnel (as was the case in defining the CR/NCR distinction). Reference to Table 42 shows that, in both grades 4 and 6, CR student groupings contain a higher proportion of low achieving students than do NCR student groupings, regardless of funding category or economic level. This tends to validate the CR/NCR classification procedures of the schools. The proportion of low achieving students is higher in grade 6 than in grade 4

Table 42

Relationship of Reading Level, Economic Level,
Funding, and CR/NCR Grouping

Grade 4		Partial				Unclassifi-			
		Total Fund.		Fund.		Non-Fund.		able Fund.	
		High	Low	High	Low	High	Low	High	Low
		Ach.	Ach.	Ach.	Ach.	Ach.	Ach.	Ach.	Ach.
<u>Low Economic Level</u>									
CR sep.	188	618	61	96	53	169	147	301	1,633
NCR sep.	235	173	15	2	178	40	193	44	880
CR comb.	142	561	59	179	66	85	120	303	1,515
NCR comb.	788	435	165	75	312	33	375	193	2,376
Subtotal	1353	1787	300	352	609	327	835	841	6,404
	3140		652		936		1676		
<u>High Economic Level</u>									
CR sep.	137	160	83	43	62	158	66	28	807
NCR sep.	284	110	130	0	103	11	544	66	1,248
CR comb.	141	344	36	58	92	122	220	278	1,291
NCR comb.	1018	257	267	43	612	60	1203	198	3,658
Subtotal	1580	871	516	144	869	351	2033	640	7,004
TOTAL	2933	2658	816	496	1478	678	2868	1481	13,408
	5591		1312		2156		4349		
<u>Grade 6</u>									
<u>Low Economic Level</u>									
CR sep.	80	646	36	44	32	163	74	200	1,275
NCR sep.	145	269	7	28	292	112	172	186	1,211
CR comb.	67	596	32	160	43	185	31	256	1,370
NCR comb.	488	348	126	60	270	96	280	334	2,002
Subtotal	780	1859	201	292	637	556	557	976	5,858
	2639		493		1193		1533		
<u>High Economic Level</u>									
CR sep.	147	199	43	63	31	131	112	145	871
NCR sep.	247	183	119	23	144	24	876	350	1,966
CR comb.	140	311	22	61	87	138	145	371	1,275
NCR comb.	730	348	166	68	499	106	740	303	2,960
Subtotal	1264	1041	350	215	761	399	1873	1169	7,072
	2305		565		1160		3042		
TOTAL	2044	2900	551	507	1398	955	2430	2145	12,930

(50% vs. 40%), a not unexpected finding, but the proportion of students participating in a free lunch program is slightly higher in grade 4 than in grade 6 (48% vs. 45%). In both grades, there is clearly a positive relationship between educational and economic advantage/disadvantage, although the relationship seems stronger in the Total and Partial Title I categories than in the Non-Title I category. In the unclassifiable funding category, the positive relationship between educational and economic disadvantage seems stronger at the sixth grade level.

The relationships revealed by this analysis all seem in accord with commonly held beliefs about the relationships among these variables. The significance of the findings lies more in the general congruity of the results and therefore, by implication, the validation of several of the definitional and data gathering procedures of this study.

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FINAL REPORT

VOLUME I

Contract No. OEC-0-71-3715

A DESCRIPTIVE AND ANALYTIC STUDY OF
COMPENSATORY READING PROGRAMS

APPENDICES A, B, C

Donald A. Trismen
Michael I. Waller
Gita Wilder

Educational Testing Service
Princeton, N. J.

December 1975

APPENDIX A

SURVEY OF COMPENSATORY READING PROJECT

INDIVIDUAL STUDENT QUESTIONNAIRE

INSTRUCTIONS: This is an alphabetical list of the students whose attendance in reading class is kept by the teacher named at the left. Please enter numbers or check boxes as appropriate. The number "0" may be entered in item 1 if the student is in an ungraded class. If you cannot get the answer to question 11, check the box for "Other" and enter "Don't Know" in the blank.

LAST	CHILD'S NAME FIRST MI	1. GRADE OR YEAR IN SCHOOL	2. DATE OF BIRTH MONTH YEAR	3. SEX	4. Is child now learning reading?	5. Has child re- ceived compensatory reading instruction PRIOR to this year?	6. If YES, for how many years prior to this year?	7. Did child attend a preschool pro- gram?	8. Did child attend kindergarten?	9. Of which racial or ethnic group is child a member?	10. Is child from a home in which the dominant lan- guage is not English?	11. If YES to number 10, what is the language spoken in the child's home?	12. Does child attend in the federal program?
IDENTIFICATION NUMBER		☐ If this grade or year is NOT correct, show correct number here	Use numbers only. MONTH YEAR	☐ Male ☐ Female	☐ Yes ☐ No ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Less than 1 yr. ☐ 1 year ☐ 2 years ☐ 3 or more ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Caucasian or white ☐ Negro or black ☐ Spanish American ☐ Oriental ☐ American Indian ☐ Other	☐ Yes ☐ No ☐ Don't Know	☐ Am. Indian ☐ Chinese ☐ French ☐ Italian ☐ Japanese ☐ Korean ☐ Puerto Rican ☐ Spanish ☐ Vietnamese ☐ Other	☐ Yes ☐ No ☐ Don't Know
IDENTIFICATION NUMBER		☐ If this grade or year is NOT correct, show correct number here	Use numbers only. MONTH YEAR	☐ Male ☐ Female	☐ Yes ☐ No ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Less than 1 yr. ☐ 1 year ☐ 2 years ☐ 3 or more ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Caucasian or white ☐ Negro or black ☐ Spanish American ☐ Oriental ☐ American Indian ☐ Other	☐ Yes ☐ No ☐ Don't Know	☐ Am. Indian ☐ Chinese ☐ French ☐ Italian ☐ Japanese ☐ Korean ☐ Puerto Rican ☐ Spanish ☐ Vietnamese ☐ Other	☐ Yes ☐ No ☐ Don't Know
IDENTIFICATION NUMBER		☐ If this grade or year is NOT correct, show correct number here	Use numbers only. MONTH YEAR	☐ Male ☐ Female	☐ Yes ☐ No ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Less than 1 yr. ☐ 1 year ☐ 2 years ☐ 3 or more ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Caucasian or white ☐ Negro or black ☐ Spanish American ☐ Oriental ☐ American Indian ☐ Other	☐ Yes ☐ No ☐ Don't Know	☐ Am. Indian ☐ Chinese ☐ French ☐ Italian ☐ Japanese ☐ Korean ☐ Puerto Rican ☐ Spanish ☐ Vietnamese ☐ Other	☐ Yes ☐ No ☐ Don't Know
IDENTIFICATION NUMBER		☐ If this grade or year is NOT correct, show correct number here	Use numbers only. MONTH YEAR	☐ Male ☐ Female	☐ Yes ☐ No ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Less than 1 yr. ☐ 1 year ☐ 2 years ☐ 3 or more ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Yes ☐ No ☐ Don't Know	☐ Caucasian or white ☐ Negro or black ☐ Spanish American ☐ Oriental ☐ American Indian ☐ Other	☐ Yes ☐ No ☐ Don't Know	☐ Am. Indian ☐ Chinese ☐ French ☐ Italian ☐ Japanese ☐ Korean ☐ Puerto Rican ☐ Spanish ☐ Vietnamese ☐ Other	☐ Yes ☐ No ☐ Don't Know
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*This should apply only to special cases,
e.g., student new to school.

Include Head Start, day care, and nursery school.
Do NOT include public school kindergarten.

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COMPENSATORY READING PROJECT

ATTITUDES TOWARD READING

GRADE 2

STUDENT'S NAME _____

EXAMPLES

A

I am eating candy.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



B

I have a stomach ache.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



C

I lost my lunch box today.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



D

I am going to visit the zoo.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



1. I am learning to read.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



2. Today our reading class was cancelled.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



3. Someone gave me a book for my birthday.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



4. I am listening to the teacher read a story.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



5. Someone took my library book away from me.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



6. I am reading to the whole class.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



7. I took a book to bed
with me last night.

I am very
sad.



I am a little
bit sad.



I am a little
bit happy.



I am very
happy.



8. I am a terrible speller.

I am very
sad.



I am a little
bit sad.



I am a little
bit happy.



I am very
happy.



9. My mother is going to
take me to the library.

I am very
sad.



I am a little
bit sad.



I am a little
bit happy.



I am very
happy.



10. I just learned some
new words.

I am very
sad.



I am a little
bit sad.



I am a little
bit happy.



I am very
happy.



11. I lost my reading
book today.

I am very
sad.



I am a little
bit sad.



I am a little
bit happy.



I am very
happy.



12. I am looking up a
word in the dictionary.

I am very
sad.



I am a little
bit sad.



I am a little
bit happy.



I am very
happy.



13. My sister is reading me a story.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



14. I am sitting under a tree reading a book.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



15. I didn't have enough time to finish my reading today.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



16. I am writing a poem.

I am very sad.



I am a little bit sad.



I am a little bit happy.

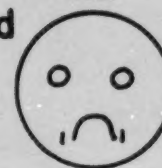


I am very happy.



17. The newspaper is too hard for me to read by myself.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



18. I have a toothache.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



19. I am supposed to write a story in class tomorrow.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



20. I am the slowest reader in my class.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



21. I can write all of the letters in the alphabet.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



22. We were going to visit the library today, but the library was closed.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



23. The teacher gave me a story to read, but it was too hard for me.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



24. I can read all of the street signs.

I am very sad.



I am a little bit sad.



I am a little bit happy.



I am very happy.



STUDENT NUMBER

--	--	--	--	--	--	--	--	--	--

C.R.P.T.

ATTITUDES TOWARD READING

GRADES 4 & 6

NAME _____

SCHOOL _____

GRADE _____

EXAMPLES

	Strongly Agree	Agree	Disagree	Strongly Disagree
A. Math is the hardest subject I know.	++	+	-	=
B. Ice cream is good at any time of the year.	++	+	-	=
C. I am a very fast runner.	++	+	-	=
D. I don't like going to the movies.	++	+	-	=

C.R.P.T.

Attitudes Toward Reading

Grades 4 & 6

Read the following statements silently as they are read aloud to you one at a time. Then, if you agree with the statement, circle the +. If you disagree, circle the - . If you agree very much or strongly, circle the ++ . If you disagree very much or strongly, circle the = .

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Learning to read is very important.	++	+	-	=
2. Reading is the hardest thing I have to do.	++	+	-	=
3. I like to take a book to bed with me at night.	++	+	-	=
4. I got nervous when the teacher asks me to read out loud.	++	+	-	=
5. I am very proud of the way I read.	++	+	-	=
6. I learn all sorts of new things when I read.	++	+	-	=
7. I don't like visiting the library.	++	+	-	=

	Strongly Agree	Agree	Disagree	Strongly Disagree
8. I don't think a book is a very good birthday present.	++	+	-	-
9. I often volunteer to read aloud in school.	++	+	-	-
10. Reading is often very boring.	++	+	-	-
11. I am a good reader.	++	+	-	-
12. I get worried when I am asked to read something.	++	+	-	-
13. I like to read to people.	++	+	-	-
14. My mother is disappointed in my reading.	++	+	-	-
15. I dislike books.	++	+	-	-
16. The thing I like best about school is reading.	++	+	-	-
17. I would rather do almost anything than read.	++	+	-	-

	Strongly Agree	Agree	Disagree	Strongly Disagree
18. I don't like to tell other people about things I have read.	++	+	-	-
19. I spend a lot of my time at home reading.	++	+	-	-
20. I think I am one of the best readers in my class.	++	+	-	-
21. My classmates like to hear me read.	++	+	-	-
22. I like to figure out new words.	++	+	-	-
23. I don't think I want to learn another language.	++	+	-	-
24. I am a slow reader.	++	+	-	-
25. When I grow up I think I would like to teach children like me how to read.	++	+	-	-
26. Reading is something I usually do without having to be told.	++	+	-	-

	Strongly Agree	Agree	Disagree	Strongly Disagree
27. I usually understand a story the first time I read it.	++	+	-	=
28. I feel good about my reading.	++	+	-	=
29. Most kids my age read better than I do.	++	+	-	=
30. I have trouble sounding out words.	++	+	-	=
31. I have trouble reading new things.	++	+	-	=
32. I usually take good care of books.	++	+	-	=
33. I like talking about things more than I like reading about them.	++	+	-	=
34. I am happiest when I am reading	++	+	-	=
35. I like to get books for presents.	++	+	-	=

	Strongly Agree	Agree	Disagree	Strongly Disagree
36. I never read unless someone forces me.	++	+	-	=
37. I read whenever I have any free time.	++	+	-	=
38. I am a fast reader.	++	+	-	=
39. I often start to read something but give up because I don't understand it.	++	+	-	=
40. I would like reading better if someone would help me with it.	++	+	-	=
41. I like to start a new book.	++	+	-	=
42. When a book is too hard for me, I usually stop reading it.	++	+	-	=
43. I find reading very easy.	++	+	-	=
44. I often read the cereal box while I am eating.	++	+	-	=
45. I think I am one of the worst readers in my class.	++	+	-	=

--	--	--	--	--

 (1-5)

C.R.P.T.

SCHOOL PRINCIPAL QUESTIONNAIRE

SCHOOL NAME _____

SCHOOL DISTRICT _____ STATE _____

PRINCIPAL'S NAME _____

DIRECTIONS: This questionnaire is in two parts. The first part is intended to elicit information about your school and the students in it. PLEASE FEEL FREE TO CONSULT OTHERS IN YOUR SCHOOL OR SCHOOL DISTRICT IN ORDER TO PROVIDE THE INFORMATION REQUESTED. The second part of the questionnaire has to do with compensatory reading programs. By compensatory reading instruction is meant any reading instruction provided to students because they are reading below their grade level.

PART I

PLEASE PROVIDE THE FOLLOWING INFORMATION ABOUT YOUR SCHOOL. Answer all questions with reference to the current school year unless otherwise indicated.

1. School enrollment this year (number of pupils). (6)

- ☐ Less than 100
- ☐ 100-299
- ☐ 300-499
- ☐ 500-699
- ☐ 700-899
- ☐ 900 or more

2. Number of classrooms. (Do not include offices, auditorium, or gymnasium.) (7-9)

3. If you have a combination of graded and ungraded classes, indicate below the instructional organization for each grade or, if ungraded, the equivalent grades in your school. (Check only one box in each row.)

Instructional Organization

Grade or Equivalent (10-18)

	NOT included in school	Graded	Ungraded	Graded & Ungraded
(a) Kindergarten	☐	☐	☐	☐
(b) Grade 1	☐	☐	☐	☐
(c) Grade 2	☐	☐	☐	☐
(d) Grade 3	☐	☐	☐	☐
(e) Grade 4	☐	☐	☐	☐
(f) Grade 5	☐	☐	☐	☐
(g) Grade 6	☐	☐	☐	☐
(h) Grade 7	☐	☐	☐	☐
(i) Grade 8	☐	☐	☐	☐

4. Number of classes at each grade level: (19-28)

K _____	3 _____	6 _____
1 _____	4 _____	7 _____
2 _____	5 _____	8 _____
Special or ungraded _____		

5. Percent of total student body that moved from school attendance area last year. (29)

1 ☐ 0-10%	3 ☐ 26-50%	5 ☐ 76-90%
2 ☐ 11-25%	4 ☐ 51-75%	6 ☐ 91-100%

6. Percent of total student body that moved into school attendance area last year. (30)

1 ☐ 0-10%	3 ☐ 26-50%	5 ☐ 76-90%
2 ☐ 11-25%	4 ☐ 51-75%	6 ☐ 91-100%

7. Estimated percentage (this year) of pupils from families of migrant workers. (31)

1 ☐ 0-10%	3 ☐ 26-50%	5 ☐ 76-90%
2 ☐ 11-25%	4 ☐ 51-75%	6 ☐ 91-100%

8. Do you feel this is an accurate estimate? (32)

1 ☐ Yes
2 ☐ No

9. Estimated percentage of pupils whose families receive Public assistance. (33)

1 ☐ 0-10%	3 ☐ 26-50%	5 ☐ 76-90%
2 ☐ 11-25%	4 ☐ 51-75%	6 ☐ 91-100%

10. Do you feel this is an accurate estimate? (34)

1 ☐ Yes
2 ☐ No

11. Estimated percentage of pupils whose head of household attained the following levels of education. (Check only one box in each lettered row.) (35-39)

	None	1-10%	11-50%	51-90%	91-100%
(a) Attended college	☐	☐	☐	☐	☐
(b) Graduated from high school but did not attend college	☐	☐	☐	☐	☐
(c) Attended but did not graduate from high school	☐	☐	☐	☐	☐
(d) Finished 8th grade but did not attend high school	☐	☐	☐	☐	☐
(e) Did not finish 8th grade	☐	☐	☐	☐	☐

12. Do you feel these are accurate estimates?

(40)

1 ☐ Yes

2 ☐ No

13. Estimated percentage of school families that have each of the following annual incomes. (Check only one box in each lettered row.) (41-45)

	None	1-10%	11-50%	51-90%	91-100%
(a) \$12,000 and over	☐	☐	☐	☐	☐
(b) Between \$9,000 and \$11,999	☐	☐	☐	☐	☐
(c) Between \$6,000 and \$8,999	☐	☐	☐	☐	☐
(d) Between \$3,000 and \$5,999	☐	☐	☐	☐	☐
(e) Under \$3,000	☐	☐	☐	☐	☐

14. Do you feel these are accurate estimates?

(46)

1 ☐ Yes

2 ☐ No

15. Estimated percentage of school families in each of the following occupational categories. (Check only one box in each lettered row.) (47-52)

	None	1-10%	11-50%	51-90%	91-100%
(a) Professionals (doctors, lawyers, etc.)	☐	☐	☐	☐	☐
(b) Business owners or managers	☐	☐	☐	☐	☐
(c) White collar workers (clerks, salespeople, etc.)	☐	☐	☐	☐	☐
(d) Skilled workers, farm owners	☐	☐	☐	☐	☐
(e) Unskilled, farm, or service workers	☐	☐	☐	☐	☐
(f) Unemployed	☐	☐	☐	☐	☐

16. Do you feel these are accurate estimates? (53)

1 ☐ Yes

2 ☐ No

17. Estimated percentage of students of the following racial or national origins. (Check only one box in each lettered row.) (54-59)

	None	1-10%	11-50%	51-90%	91-100%
(a) Caucasian or White	☐	☐	☐	☐	☐
(b) Negro or Black	☐	☐	☐	☐	☐
(c) Spanish surnamed	☐	☐	☐	☐	☐
(d) Oriental	☐	☐	☐	☐	☐
(e) American Indian	☐	☐	☐	☐	☐
(f) Other (Specify)	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐

18. Do you feel these are accurate estimates?

(60)

1 ☐ Yes

2 ☐ No

19. Are children bussed to your school from other neighborhoods not in your school's regular attendance area? (61)

1 ☐ Yes

2 ☐ No

20. If children are bussed in, about what percentage of the total student body is bussed in? (62)

1 ☐ 1-10%

1 ☐ 26-50%

2 ☐ 11-25%

2 ☐ More than half

21. Are children bussed from your school's attendance area to schools in other neighborhoods? (63)

1 ☐ Yes

2 ☐ No

22. Using your best professional judgment, rate each of the following characteristics for your school.

	Highly Adequate	Adequate	Inadequate	Highly Inadequate	
Size of physical plant for pupil	☐	☐	☐	☐	(64)
Condition of physical plant	☐	☐	☐	☐	
Suitability of physical plant for program operation	☐	☐	☐	☐	
Number of instructional personnel	☐	☐	☐	☐	
Number of other pro- fessional personnel	☐	☐	☐	☐	
Number of teacher aides	☐	☐	☐	☐	
Number of other non- professionals	☐	☐	☐	☐	
Quantity of books, periodi- cals, and other printed materials	☐	☐	☐	☐	(71)
Suitability (quality) of books, periodicals, and other printed materials for instruction	☐	☐	☐	☐	
Quantity of audio-visual materials	☐	☐	☐	☐	
Suitability (quality) of audio-visual materials for instruction	☐	☐	☐	☐	
Quantity of instructional equipment	☐	☐	☐	☐	
Suitability (quality) of instructional equipment for instruction	☐	☐	☐	☐	(76)

23. Estimate the percentage of students in your school at each of the following grade levels who are reading one or more years below grade level according to current test data. The estimate should be based upon the concept of national norms for the grade for which you are reporting. (77-79)

(a) Grade 2

- | | | |
|-----------------------------------|-----------------------------------|------------------------------------|
| 1 ☐ None | 4 ☐ 26-50% | 7 ☐ 91-100% |
| 2 ☐ 1-10% | 5 ☐ 51-75% | |
| 3 ☐ 11-25% | 6 ☐ 76-90% | |

(b) Grade 4

- | | | |
|-----------------------------------|-----------------------------------|------------------------------------|
| 1 ☐ None | 4 ☐ 26-50% | 7 ☐ 91-100% |
| 2 ☐ 1-10% | 5 ☐ 51-75% | |
| 3 ☐ 11-25% | 6 ☐ 76-90% | |

(c) Grade 6

- | | | |
|-----------------------------------|-----------------------------------|------------------------------------|
| 1 ☐ None | 4 ☐ 26-50% | 7 ☐ 91-100% |
| 2 ☐ 1-10% | 5 ☐ 51-75% | |
| 3 ☐ 11-25% | 6 ☐ 76-90% | |

24. Are there students in your school who, in your judgment, are in need of remedial reading instruction but who are not receiving such instruction? (80)

1 ☐ Yes

2 ☐ No

If no, go on to Part II.

(a) If yes, how many students? _____ (81-83)

(b) If yes, how many students are there in need of remedial reading instruction in each of the following grades? (84-101)

1 _____ 4 _____ 7 _____

2 _____ 5 _____ 8 _____

3 _____ 6 _____ Ungraded _____

PART II

DIRECTIONS: This part of the questionnaire is intended to elicit information about the compensatory reading program(s) in your school. By compensatory reading instruction is meant any reading instruction provided to students because they are reading below their grade level.

25. Does your school conduct at least one compensatory reading program as defined? (102)

- 1 ☐ Yes If so, please go on to question 26 and complete the remainder of this questionnaire.
- 2 ☐ No If not DO NOT COMPLETE THE REMAINDER OF THIS QUESTIONNAIRE. Instead, return the questionnaire to ETS in the postage-paid envelope provided. Thank you for your cooperation.

If you have more than one compensatory reading program in operation in your school during this academic year, space is provided in some instances for you to answer questions about each program individually. Some guidelines for determining what constitutes "a program" for purposes of this survey are presented below.

1. If instructional groups (for example, grades) are exposed to essentially the same kinds of materials, personnel, and services, the total over all grades should be considered a program.
2. If a separate classroom or space is set aside for reading instruction, staffed by special personnel and supplied with special equipment or materials, such an entity should be considered a program.
3. If teachers receive special training for compensatory reading instruction during summers or released time, and that training is funded by supplementary sources, such training, in and of itself, should be considered a program.

26. How many separate and distinct compensatory reading programs are currently operating in your school? (Include teacher training programs conducted during the summer preceding the current school year.) (103)

☐ One ☐ Four
☐ Two ☐ More than four
☐ Three

27. If there is more than one compensatory reading program in your school, please list each program below. Use a brief, descriptive title to identify each program, one on each line. Thereafter, when asked to answer questions separately for each program, report on the separate programs in the order you list them here.

Program 1 _____

Program 2 _____

Program 3 _____

Program 4 _____

28. Are any of the compensatory reading programs in your school funded totally or in part by funds (federal, state, local, or other) supplementary to the regular ongoing school budget? (104)

☐ Yes
☐ No) If No or Don't know,
☐ Don't know) skip to question 30.

29. When was the first compensatory reading program funded by supplementary sources made available in your school? (105)

- ☐ One year ago
- ☐ More than 1 but less than 2 school years ago
- ☐ More than 2 but less than 3 school years ago
- ☐ 3 or more school years ago
- ☐ Don't know

30. How long has (have) the present compensatory reading program(s) been available in your school? (Answer separately for each program.) (106-109)

	Program 1	Program 2	Program 3	Program 4
One school year or less (This is the first year)	☐	☐	☐	☐
More than 1 but less than 2 school years	☐	☐	☐	☐
More than 2 but less than 3 school years	☐	☐	☐	☐
3 or more school years	☐	☐	☐	☐

31. What was your school per pupil expenditure last year?

_____ (110-113)

- ☐ Check here if you don't know (114)

32. What was your district per pupil expenditure last year? (115-118)

☐ Check here if you don't know (119)

33. What are the total funds allocated for compensatory reading in your school? (120-125)

☐ Check here if you don't know (126)

34. What are the costs per pupil of compensatory reading in your school? (127-130)

☐ Check here if you don't know (131)

35. If there are separate compensatory reading programs in your school, please provide the following breakdown(s) of costs by program and component parts.

	Program 1	Program 2	Program 3	Program 4	
Total cost of program					(132-155)
Cost of personnel: Professional					(156-179)
Other					(180-203)

Check here if you cannot
break down costs for
program

☐
☐
☐
☐

(204-207)

36. How many pupils participate in (each of the) compensatory reading program(s) in your school? (If there is more than one program, answer separately for each. If individual children participate in more than one program, count them in each total.) (208-223)

Number of Pupils

Program 1 _____

Program 2 _____

Program 3 _____

Program 4 _____

37. Approximately what percent of the pupils at each grade level in your school participate in the compensatory reading program(s)? (Answer separately for each program.) If classes are ungraded, answer using number of years in school instead of grade level and check this box ☐. (224)

Grade	PROGRAM 1				PROGRAM 2				PROGRAM 3				PROGRAM 4				
	None	1-25%	26-50%	51-100%	None	1-25%	26-50%	51-100%	None	1-25%	26-50%	51-100%	None	1-25%	26-50%	51-100%	
K	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(225)
1	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(229)
2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(233)
3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(237)
4	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(241)
5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(245)
6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(249)
7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(253)
8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(257)

38. About what percentage of the students participating in each of the compensatory reading programs in your school are from culturally, linguistically, and/or economically deprived backgrounds? (Mark one box in each lettered row.) (261-264)

	None	1-10%	11-50%	51-90%	91-100%	Don't Know
Program 1	☐	☐	☐	☐	☐	☐
Program 2	☐	☐	☐	☐	☐	☐
Program 3	☐	☐	☐	☐	☐	☐
Program 4	☐	☐	☐	☐	☐	☐

39. Indicate below the actual numbers of classes and pupils in the compensatory reading program(s) at each of the specified grade levels in your school. (Answer for all programs combined.) (265)
If classes are ungraded, answer using number of years in school instead of grade level and check this box ☐.

	Total for School	Total for Grades		
		2	4	6
Number of class sections	_____	_____	_____	_____
Number of students	_____	_____	_____	_____

40. Indicate the approximate level of funding for the compensatory reading program(s) in your school by each source indicated below. (Answer separately for each program.)

	PROGRAM 1			PROGRAM 2			PROGRAM 3			PROGRAM 4			
	Total	Partial	None	Total	Partial	None	Total	Partial	None	Total	Partial	None	
FEDERAL													
ESEA Title I	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Other (Specify)													
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(287)
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
STATE (Specify)													
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(303)
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
LOCAL (specify)													
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(315)
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
OTHER													
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	(327)
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

☐ Check here if you cannot provide information requested above in question 40. (339)

41. Was any teacher resistance encountered in the implementation of the compensatory reading program(s) in your school? (340)

- ☐ None at all
- ☐ Some
- ☐ A great deal

42. Was any community resistance encountered in the implementation of the compensatory reading program(s) in your school? (341)

- ☐ None at all
- ☐ Some
- ☐ A great deal

43. What is the basis for determining pupil participation in the compensatory reading program(s)? (Mark all that apply.) (342-348)

- ☐ All students in the school participate
- ☐ Membership in one or more specific target groups
(i.e. economically disadvantaged, migrants, non-English-speaking)
- ☐ Depressed reading levels (as indicated by test results)
- ☐ Teacher (or other staff) recommendation
- ☐ Parent request
- ☐ Volunteer
- ☐ Other (Specify) _____

44. Since June 1972, how many and what types of personnel in your school have participated in inservice training activities to prepare them for teaching in a compensatory reading program for elementary students? (349)

Number of
Individuals

_____ Regular classroom teacher

_____ School-located reading specialists

_____ School district reading specialists

_____ School personnel other than above (Specify)

45. Does the compensatory reading program(s) use parents or other volunteers (paid or unpaid) to help in the classroom? (357)

1 ☐ Yes

2 ☐ No

46. Does the compensatory reading program(s) use pupils as tutors? (358)

1 ☐ Yes

2 ☐ No

47. Do you expect to have a compensatory reading program in the SUMMER of 1973? (359)

1 ☐ Yes

2 ☐ No

3 ☐ Don't know

48. If you do expect to have a summer program, for which of the following grades will the program be conducted? (Circle all that apply.) (360-369)

K 1 2 3 4 5 6 7 8 Ungraded

49. On what basis do you expect to select students for the summer program? (Check all that apply.) (370-377)

- ☐ Previous participation in a compensatory reading program
- ☐ Previous non-participation in a compensatory reading program
- ☐ Depressed reading level
- ☐ Membership in one or another specific target groups (economically deprived, etc.)
- ☐ Teacher or other staff recommendation
- ☐ Parent request
- ☐ Volunteer
- ☐ Other (Specify) _____

PLEASE CHECK TO MAKE SURE ALL QUESTIONS HAVE BEEN ANSWERED.
THEN RETURN YOUR QUESTIONNAIRE TO ETS IN THE POSTAGE-PAID
ENVELOPE PROVIDED. THANK YOU FOR YOUR COOPERATION.

C.R.P.T.

TEACHER CHARACTERISTICS QUESTIONNAIRE

1. What is your sex? _____ Male _____ Female (7)

2. How many years of teaching experience (public and nonpublic), including this school year, have you had? (8)
 - ☐ One year or less
 - ☐ More than 1 year but less than 3 years
 - ☐ At least 3 years but less than 6 years
 - ☐ At least 6 years but less than 10 years
 - ☐ At least 10 years but less than 20 years
 - ☐ Twenty years or more

3. How many years, including this school year, have you taught in this school? (9)
 - ☐ One year or less
 - ☐ More than 1 year but less than 3 years
 - ☐ At least 3 years but less than 6 years
 - ☐ At least 6 years but less than 10 years
 - ☐ At least 10 years but less than 20 years
 - ☐ Twenty years or more

4. What type of teaching certification do you have? (10)
 - ☐ No certificate
 - ☐ Temporary, provisional, or emergency certification
 - ☐ Regular certification

5. What is the highest earned college degree you hold? (Do not report honorary degrees.) (11)
 - ☐ No degree
 - ☐ A degree or diploma based on less than 4 years of work
 - ☐ A bachelor's degree
 - ☐ A master's degree
 - ☐ A doctor's degree (EdD, PhD, etc.)

6. Have you had any special training in the diagnosis and treatment of reading problems? (12)

☐ Yes ☐ No

a. If Yes, at what academic level was the training? (13)

☐ Undergraduate
☐ Graduate
☐ Inservice
☐ On the job
☐ Other (specify) _____

7. Are most of your students of the same racial or national origin as you? (14)

☐ Yes ☐ No

8. Were you assigned to or did you choose the school in which you are teaching? (15)

☐ Was assigned to school ☐ Chose school

9. Were you assigned to or did you choose to teach the class you are teaching this year? (16)

☐ Was assigned to class ☐ Chose class

The questions that follow are all designed to elicit your opinions about your school, the pupils you teach, and any compensatory reading program you might be involved in. Please answer the questions as candidly as you are able. There are no "right" answers to these questions; we are interested in obtaining some information about how teachers feel about compensatory reading programs and about the pupils in them.

10. Compared with other elementary schools in your district or community, how satisfied are you with respect to the following things about your school? (17-22)

	Highly Satisfied	Moderately Satisfied	Moderately Dissatisfied	Highly Dissatisfied
Physical facilities (buildings, etc.)	☐	☐	☐	☐
Faculty (teachers)	☐	☐	☐	☐
Ability of student body	☐	☐	☐	☐
Attitudes of student body	☐	☐	☐	☐
Administration	☐	☐	☐	☐
Overall philosophy of education	☐	☐	☐	☐

11. How responsive is the administration of your school to any requests you might make for additional teaching materials or equipment? (23)
- ☐ Highly responsive
☐ Moderately responsive
☐ Not at all responsive
12. For remedial or other help for one of your students? (24)
- ☐ Highly responsive
☐ Moderately responsive
☐ Not at all responsive
13. For changes in your curriculum? (25)
- ☐ Highly responsive
☐ Moderately responsive
☐ Not at all responsive
14. Do you believe there is a sound basis in educational policy for giving compensatory programs to disadvantaged students at extra per pupil cost? (26)
- ☐ Definitely yes
☐ Probably yes
☐ I am undecided
☐ Probably no
☐ Definitely no
15. Do you believe that compensatory programs are generally worthwhile? (27)
- ☐ Definitely yes
☐ Probably yes
☐ I am undecided
☐ Probably no
☐ Definitely no

16. The following statements are all related to the academic capabilities of disadvantaged pupils. For each statement, indicate the degree to which you agree or disagree with the idea expressed.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	
a. With proper instruction they can learn about as well as any other pupils.	☐	☐	☐	☐	☐	(28)
b. No matter how good the instruction these pupils receive they will always score lower than middle class children.	☐	☐	☐	☐	☐	
c. These children do not want to learn.	☐	☐	☐	☐	☐	
d. The pupils want to learn but they do not have the right background for school work.	☐	☐	☐	☐	☐	(31)
e. It has been sufficiently proven that such pupils will never do as well as other students.	☐	☐	☐	☐	☐	
f. Materials are more important than methods in the teaching of reading.	☐	☐	☐	☐	☐	
g. Methods are more important than materials in the teaching of reading.	☐	☐	☐	☐	☐	
h. The teacher's ability is more important than either method or materials in the teaching of reading.	☐	☐	☐	☐	☐	
i. Disadvantaged children have more trouble learning to read than advantaged children.	☐	☐	☐	☐	☐	(36)
j. Disadvantaged children have a shorter attention span than advantaged children.	☐	☐	☐	☐	☐	
k. Disadvantaged children have different linguistic experiences than advantaged children.	☐	☐	☐	☐	☐	
l. Disadvantaged children are disadvantaged mainly in that they do not have the foundation of concepts that advantaged children have.	☐	☐	☐	☐	☐	
m. Learning to verbalize complete thoughts is particularly important for disadvantaged children.	☐	☐	☐	☐	☐	
n. Improving the student's self-image as a learner is particularly important for disadvantaged children.	☐	☐	☐	☐	☐	(41)
o. The ability to ask questions which require a complete answer is extremely important in teaching reading to disadvantaged children.	☐	☐	☐	☐	☐	
p. In teaching reading, a wrong response can be as useful as a correct response.	☐	☐	☐	☐	☐	
q. Disadvantaged children often have lower aspirations than advantaged children.	☐	☐	☐	☐	☐	(44)

C.R.P.T.

CLASS AND PROGRAM CHARACTERISTICS QUESTIONNAIRE:

COMPENSATORY PROGRAMS

This questionnaire is designed to elicit information about your reading instruction and the group(s) to which you provide such instruction. Because reading instruction and instructional groups are so variable, some definitions are given below. Please keep the definitions in mind as you answer the questions, and refer to them as often as you need to.

The main purpose of the questionnaire is to provide descriptive information about compensatory reading programs in grades 2, 4, and 6. By compensatory reading instruction is meant any reading instruction provided to students because they are reading below their grade level.

In many instances, the questionnaire asks for information about classes. For purposes of this study, a class is any instructional group that is exposed to a common set of materials, personnel and/or services, however large and extensive that set might be, and that can sensibly be treated as a group in terms of its general characteristics. IF YOU ARE A MEMBER OF A TEAM THAT TOGETHER INSTRUCTS SUCH A GROUP, PLEASE COMPLETE THIS QUESTIONNAIRE TOGETHER WITH THE OTHER MEMBER(S) OF THE TEAM.

If your class includes students from several grade levels, please answer the questionnaire with respect to the grade level(s) that are appropriate to this study (2, 4, and/or 6).

I. CLASS CHARACTERISTICS

1. If you are a classroom teacher, answer questions 2-4. If you are NOT a classroom teacher, check your title below and skip to question 5. (7)

- ☐ Remedial reading or reading specialist teacher
- ☐ Other specialist teacher
- ☐ Counselor
- ☐ Teacher Aide
- ☐ Other (Specify) _____

2. What grade do you teach? (8)

- ☐ Two
- ☐ Four
- ☐ Six
- ☐ Ungraded

3. How many pupils are in your class? (Give actual number.) (9-11)

- a. How many are boys? _____ (12-13)

- b. How many are girls? _____ (14-15)

4. How do the pupils in your class receive compensatory reading instruction?

☐ All of the pupils in my class receive compensatory reading instruction (16)

☐ from me (17)

☐ some from me and some from another teacher

☐ Selected pupils in my class receive compensatory reading instruction (18)

☐ from me (19)

☐ some from me and some from another teacher

The following questions refer ONLY to those pupils who receive their compensatory reading instruction from you. If you are a classroom teacher, and if all of the pupils in your class receive compensatory reading instruction, answer the questions in terms of the total class. IF ONLY SOME OF THE PUPILS RECEIVE COMPENSATORY READING INSTRUCTION FROM YOU, ANSWER IN TERMS OF THOSE PUPILS ONLY. If you provide compensatory reading instruction to more than one class (as class is described above), answer the questions with respect to one class per program. Answer the questions with reference to the class in any given program that meets earliest each week. Be sure to include all meetings of that class. If you do teach compensatory reading to more than one class, indicate in the box how many classes you teach.

☐

(20-21)

5. How many pupils receive compensatory reading instruction from you? (Include any pupils who may be sent to your classroom especially for compensatory reading instruction.)

Total number of pupils _____ (22-24)

a. How many are boys? _____ (25-26)

b. How many are girls? _____ (27-28)

6. What is the age of the oldest child in your compensatory reading class?

--	--	--	--

Years/Months

(29-32)

What is the age of the youngest child in your compensatory reading class?

--	--	--	--

Years/Months

(33-36)

7. About what percentage of the pupils in your compensatory reading class have received compensatory reading instruction prior to this year? (37)

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

8. About what percent of the pupils in your compensatory reading class attended some form of preschool? (Include Headstart, day care, or nursery school. DO NOT INCLUDE PUBLIC SCHOOL KINDERGARTEN.) (38)

- ☐ None
☐ 1-25%
☐ 26-50%
☐ 51-75%
☐ 76-100%
☐ Don't know

9. About what percentage of the pupils in your compensatory reading class are members of the following racial or national origin groups? (Mark one box in each lettered row.) (39-44)

	None	1-10%	11-50%	51-90%	91-100%
(a) Caucasian or White	☐	☐	☐	☐	☐
(b) Negro or Black	☐	☐	☐	☐	☐
(c) Spanish surnamed	☐	☐	☐	☐	☐
(d) Oriental	☐	☐	☐	☐	☐
(e) American Indian	☐	☐	☐	☐	☐
(f) Other (Specify)		☐	☐	☐	☐

10. Estimate the percentage of the pupils in your compensatory reading (45)
class who are from homes in which the dominant language is not
English.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

- 10a. Among the homes where the dominant language is not English, what (46-51)
language(s) is (are) spoken? (Mark all that apply.)

- ☐ American Indian
- ☐ Chinese
- ☐ Japanese
- ☐ Spanish-Portuguese
- ☐ French
- ☐ Other (Specify) _____

11. Estimate the percentage of pupils in your compensatory reading class who have persistent problems in each of the following areas. (52-59)
(Mark one box in each lettered row.)

	None	1-10%	11-50%	51-90%	91-100%	Don't Know
(a) Speech	☐	☐	☐	☐	☐	☐
(b) Vision	☐	☐	☐	☐	☐	☐
(c) Hearing	☐	☐	☐	☐	☐	☐
(d) Frequent illness	☐	☐	☐	☐	☐	☐
(e) Mental retardation	☐	☐	☐	☐	☐	☐
(f) Emotional problems	☐	☐	☐	☐	☐	☐
(g) Family instability	☐	☐	☐	☐	☐	☐
(h) Other (Specify)		☐	☐	☐	☐	☐

12. Estimate the percentage of pupils in your compensatory reading class whose family incomes are derived from each of the following occupational categories. (Mark one box in each lettered row.) (60-66)

	None	1-10%	11-50%	51-90%	91-100%
(a) Unskilled or service workers	☐	☐	☐	☐	☐
(b) Skilled workers or farm owners	☐	☐	☐	☐	☐
(c) White collar workers (clerks, salespeople, etc.)	☐	☐	☐	☐	☐
(d) Business owners or managers	☐	☐	☐	☐	☐
(e) Professionals (doctors, lawyers, etc.)	☐	☐	☐	☐	☐
(f) Unemployed	☐	☐	☐	☐	☐
(g) Don't know	☐	☐	☐	☐	☐

13. What is the average absentee rate in your compensatory reading class? (About what percentage of the class is absent on any given day?) (67)

☐ 0-10%

☐ 11-20%

☐ 21-30%

☐ 31-40%

☐ 41-50%

☐ More than 50%

14. Which of the following would you judge to be the major causes of absenteeism among your pupils? (Mark yes or no for each cause.) (68-73)

1 2
Yes No

- | | | |
|--------------------------|--------------------------|--|
| ☐ | ☐ | Illness of pupil |
| ☐ | ☐ | Illness of other family members(s) |
| ☐ | ☐ | Lack of parental concern |
| ☐ | ☐ | Need for pupil to perform other duties at home |
| ☐ | ☐ | Suspension or expulsion |
| ☐ | | Other (Specify) _____ |

15. Estimate the percentage of your pupils whose families have moved into this school attendance area during the school year. (74)

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Can't estimate

16. Estimate the percentage of your pupils who have moved out of the school attendance area this year? (75)

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Can't estimate

Questions 17 and 18 ask for your opinions about the pupils you teach. Please answer the questions as candidly as you are able; there are no "right" answers to these questions.

17. How far do you expect the average pupil in your compensatory reading class would be able to go in school if he were given the opportunity? (Mark only one box.) (76)

- ☐ Eighth grade, or lower
- ☐ Ninth, tenth, or eleventh grade
- ☐ High school graduate
- ☐ Junior college, business school, or some other post-secondary course, but not a four year college
- ☐ Four year college or beyond
- ☐ Other (Specify) _____

18. How far do you expect the average pupil in your compensatory reading class will actually go in school? (Mark only one box.) (77)

- ☐ Eighth grade, or lower
- ☐ Ninth, tenth, or eleventh grade
- ☐ High school graduate
- ☐ Junior college, business school, or some other post-secondary course, but not a four year college
- ☐ Four year college or beyond
- ☐ Other (Specify) _____

II. PROGRAM CHARACTERISTICS

The following questions refer to your compensatory reading instruction (see definition on page 1). If you are a classroom teacher, and all of the pupils in your class receive compensatory reading instruction, answer the questions in terms of the total class. If only some of the pupils receive compensatory reading instruction, answer the questions in terms of those pupils only, and in terms of that part of the instructional program that is directed to them.

If you are a reading teacher or specialist teacher, answer the questions with reference to the class to which your instruction applies. If you teach more than one class (as class is defined on page 1), answer the questions with reference to the one class per program that meets earliest in the week. Be sure to include all meetings of that class. If you teach in MORE THAN ONE PROGRAM, fill out separate questionnaires for one class in each program.

19. If you do teach more than one class, check this box. ☐ (78)
20. If you teach in more than one program, check this box. ☐ (79)
21. When is compensatory reading instruction carried out? (80-84)
(Check all that apply.)
- ☐ During regular school hours in time scheduled for regular reading instruction
 - ☐ During regular school hours in time released from other class work
 - ☐ Before or after school or on weekends
 - ☐ During the summer
 - ☐ Other (Specify) _____

22. If compensatory reading instruction is carried on in time released from other class work, which of the following subject matter areas receive correspondingly reduced time? (Mark all that apply.) (85-94)

- ☐ Social Studies
- ☐ Science
- ☐ Mathematics
- ☐ Foreign Language
- ☐ Language Arts
- ☐ Physical Education
- ☐ Art
- ☐ Music
- ☐ Seat work, study time, etc.
- ☐ Other (Specify) _____

23. What is the average amount of formal instructional time per student in compensatory reading?

- a. Minutes per instructional period: (95)

- | | |
|----------------------------------|---------------------------------------|
| 1 ☐ 1-15 | 5 ☐ 51-60 |
| 2 ☐ 16-30 | 6 ☐ 61-75 |
| 3 ☐ 31-40 | 7 ☐ 76-90 |
| 4 ☐ 41-50 | 8 ☐ 91 or more |

- b. Number of instruction periods per week: (96)

- | | |
|---|---|
| 1 ☐ One | 3 ☐ Four or five |
| 2 ☐ Two or three | 4 ☐ More than five |

24. Do most pupils receive compensatory reading instruction at the same time of day every instructional day? (97)

1 ☐ Yes

2 ☐ No

a. a. If yes, when is the instructional period? (98)

☐ Before school

☐ Morning only (before lunch)

☐ Afternoon only (after lunch)

☐ Both morning and afternoon

☐ After school

b. If no, when does instruction ususally take place? (99)

☐ Mostly in the morning

☐ Mostly in the afternoon

☐ About equally divided between mornings and afternoons

25. What additional personnel are available to you in your teaching of compensatory reading?

(100-108)

	Often	Some- Times	Rarely	Not Available
Remedial reading teacher or supervisor	☐	☐	☐	☐
Other professionals (counselors, psychologists, etc.)	☐	☐	☐	☐
Paraprofessionals or teacher aides	☐	☐	☐	☐
Parent or other volunteer	☐	☐	☐	☐
Student teacher	☐	☐	☐	☐
Media specialist	☐	☐	☐	☐
Resource teacher (music, art, etc.)	☐	☐	☐	☐
Older student in school	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐

26. During the school year, how many teachers other than yourself have held your particular teaching assignment with your compensatory reading class for at least two consecutive weeks? COUNT SUBSTITUTE TEACHERS AND REPLACEMENT TEACHERS; DO NOT COUNT STUDENT TEACHERS OR CLASSROOM AIDES. (109)

- ☐ None
☐ 1
☐ 2
☐ 3
☐ More than 3

27. If your compensatory reading class is organized into groups, indicate the frequency with which you organize these groups by each of the following criteria. (110-115)

	Often	Some- Times	Rarely	Never
Reading grade level	☐	☐	☐	☐
Specific skill deficiencies	☐	☐	☐	☐
Shared interests	☐	☐	☐	☐
Specific projects	☐	☐	☐	☐
Other (Specify)	☐	☐	☐	

- ☐ Check here if your compensatory reading class is not organized into groups.

28. If your compensatory reading class is organized into groups, (116)
about how frequently does the composition of the group change?

☐ Daily

☐ Weekly

☐ Bi-weekly

☐ Monthly

☐ Rarely, if ever

☐ Other (Specify) _____

29. How often do the following instructional groups operate (occur) (117-123)
in the course of your teaching of compensatory reading?

	All of the time	Often	Some- Times	Rarely or Never
Adult and child in one-to-one relationship	☐	☐	☐	☐
Adult and children in groups of between 2 and 10	☐	☐	☐	☐
Adult and children in groups of between 11 and 20	☐	☐	☐	☐
Adult and children in groups of more than 20 (includes whole class instruction)	☐	☐	☐	☐
Individual pupils working independently	☐	☐	☐	☐
Pupil teams working independently	☐	☐	☐	☐
Other (Specify)	☐	☐	☐	☐

30. In a sentence or two, describe the outstanding features of your compensatory reading program.

31. Which one of the following terms comes closest to describing your major classroom approach to the teaching of compensatory reading? (124)

- ☐ Linguistic-phonetic
- ☐ Language experience
- ☐ Combination of language experience and linguistic or phonetic
- ☐ Modified alphabet
- ☒ Other (Specify) _____
- ☐ Don't know

32. How long have you used this method? (125)

- ☐ This is the first year
- ☐ For one or two years
- ☐ For three, four, or five years
- ☐ For six years or more

33. To what extent do you use each of the following approaches to teaching compensatory reading in your classroom? (126-136)

	Not at All	Minimally	Somewhat	Exten- sively
Basal readers	☐	☐	☐	☐
Programmed instruction	☐	☐	☐	☐
A total phonics program	☐	☐	☐	☐
A supplementary phonics program	☐	☐	☐	☐
Language experience	☐	☐	☐	☐
A linguistic program	☐	☐	☐	☐
Non-standard orthography (example: i.t.a.)	☐	☐	☐	☐
Words in color	☐	☐	☐	☐
Individualized programs	☐	☐	☐	☐
Technological devices such as "talking typewriter" or teaching machines	☐	☐	☐	☐
Other (Specify and describe)		☐	☐	☐

34. Who selected the materials that you are currently using in your teaching of compensatory reading? (137)

- ☐ You, and you alone
- ☐ You, as a member of a team or committee
- ☐ An individual who asked for your views; or a team or committee of which you were not a member but on which your views were represented
- ☐ An individual, team, or committee, operating without any input from you
- ☐ Materials are dictated by state or local educational authority
- ☐ Other (Specify) _____

35. How satisfied are you with the materials you are currently using in your teaching of compensatory reading? (138)

- ☐ Totally satisfied
- ☐ Satisfied in major aspects; dissatisfied in some minor ones
- ☐ Lukewarm; neither devoted nor opposed to the materials
- ☐ Dissatisfied in major aspects; satisfied only in some minor ones
- ☐ Totally dissatisfied

36. How frequently do you use the following materials in the course of your compensatory reading instruction? (139-148)

	Not Available	Often	Some- Times	Rarely or Never Use
Textbooks other than basal readers	☐	☐	☐	☐
Books and printed materials other than textbooks	☐	☐	☐	☐
Newspapers, magazines, and other periodicals	☐	☐	☐	☐
Teacher-prepared materials (dittos, etc.)	☐	☐	☐	☐
Motion pictures and/or filmstrips	☐	☐	☐	☐
Slides and transparencies	☐	☐	☐	☐
Tape recordings and records	☐	☐	☐	☐
Video or television tapes	☐	☐	☐	☐
Games, puzzles, and toys	☐	☐	☐	☐
Other (Specify)		☐	☐	☐

37. How much time does a typical pupil in your compensatory reading class spend in each of the following types of activities? (149-163)

	A great deal	Some	Little or none
Improving motor abilities related to reading	☐	☐	☐
Increasing attention span	☐	☐	☐
Developing visual discrimination	☐	☐	☐
Matching letters or words	☐	☐	☐
Learning letter forms	☐	☐	☐
Developing a sight vocabulary (whole word recognition)	☐	☐	☐
Learning word meanings (vocabulary)	☐	☐	☐
Phonic and/or structural analysis	☐	☐	☐
Being read to	☐	☐	☐
Reading aloud	☐	☐	☐
Reading silently (independent silent reading)	☐	☐	☐
Creative writing	☐	☐	☐
Reading for enjoyment	☐	☐	☐
Enriching cultural background	☐	☐	☐
Other (Specify) _____	☐	☐	☐

38. Have you had any special training in the teaching of reading or in instructional techniques for disadvantaged pupils in connection with your current teaching assignment? (164)

1 ☐ Yes

2 ☐ No

If no, skip to question 43.

If yes, please answer questions 39-42.

39. What form did the special training take? (Check all that apply.) (165-170)

- ☐ Summer workshop or institute
- ☐ College course (whether or not for degree credit)
- ☐ After school or weekend workshop
- ☐ Released-time workshop
- ☐ Individual instruction with supervised practice teaching
- ☐ Other (Specify) _____

40. Which of the following areas were explored in the course of the special training you received? (Check all that apply.) (171-177)

- ☐ New instructional techniques in reading
- ☐ Diagnosis of reading problems
- ☐ Open classroom methods
- ☐ Individualized instruction
- ☐ Use of equipment and materials
- ☐ Techniques for cultural enrichment
- ☐ Other(s) (Specify) _____

41. Over what period of time did the special training extend? (178)

- ☐ One summer
- ☐ One semester
- ☐ One academic year
- ☐ One calendar year
- ☐ One summer and one academic year
- ☐ Other (Specify) _____

42. How long ago did you receive your special training? (179)

- ☐ Training is still in progress
- ☐ Less than one year ago
- ☐ More than one but less than two years ago
- ☐ More than two but less than three years ago
- ☐ Three or more years ago

43. For a typical pupil in your compensatory reading class, about (180-187)
how much in-school time is devoted to each of the following reading
or reading-related activities?

	None	Less than 1 hour per week	Between 1 and 4 hrs/wk	More than 1 hour a day (5+ hrs/wk)
Basic reading instructional program	☐	☐	☐	☐
Compensatory reading	☐	☐	☐	☐
Instructional program (only if compensatory reading program is different from basic instructional program)	☐	☐	☐	☐
Reading in content areas (science, social studies, etc.)	☐	☐	☐	☐
Independent (self-selected) reading	☐	☐	☐	☐
Library activities	☐	☐	☐	☐
Enrichment activities (include trips, special assemblies, etc.)	☐	☐	☐	☐
Other relevant activities (Specify)		☐	☐	☐

44. Please indicate below what materials you use in your compensatory reading instruction, and to what extent you use them.

Series Title (Specify)	Use as major resource	Supple- mental or optional material	Use for refer- ence	Don't use at all	
Scott _____	☐	☐	☐	☐	(188)
Forsmann _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Harper _____	☐	☐	☐	☐	
Row _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Macmillan _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
American _____	☐	☐	☐	☐	
Book Co. _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Ginn & Co. _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Houghton- _____	☐	☐	☐	☐	(198)
Mifflin _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Lippin- _____	☐	☐	☐	☐	
cott _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Allyn & _____	☐	☐	☐	☐	
Bacon _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Holt, _____	☐	☐	☐	☐	
Rinehart _____	☐	☐	☐	☐	
Winston _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
SRA _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Harcourt _____	☐	☐	☐	☐	(208)
Brace & _____	☐	☐	☐	☐	
World _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Open Court	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
ITA	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Merrill Linguistics	☐	☐	☐	☐	(212)

List all additional important materials used, including hardware	Use as major resource	Supplemental or optional material	Use for reference
_____	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐

(213-217)

Use back of booklet to list additional materials

45. Do you create any of the materials you use in teaching compensatory reading?

(218)

1 ☐ Yes

2 ☐ No

a. If yes, which of the following types of materials do you create? (Check all that apply.)

(219-227)

- ☐ Worksheets
- ☐ Printed stories, poems, or essays
- ☐ Transparencies for overhead projector
- ☐ Filmstrips
- ☐ Slides
- ☐ Motion pictures
- ☐ Charts
- ☐ Tapes
- ☐ Other (Specify) _____

46. How would you rate each of the following activities in terms of importance to you as goals in your current teaching of compensatory reading?

	Major goal	Secondary goal	Of little or no importance as a goal	
Improving motor abilities related to reading	☐	☐	☐	(228)
Increasing attention span	☐	☐	☐	
Developing auditory discrimination	☐	☐	☐	
Developing visual discrimination	☐	☐	☐	
Matching letters or words	☐	☐	☐	
Learning letter forms	☐	☐	☐	
Developing a sight vocabulary (whole word recognition)	☐	☐	☐	
Learning word meanings (vocabulary)	☐	☐	☐	
Phonic and/or structural analysis	☐	☐	☐	
Developing skill in using context clues	☐	☐	☐	
Practicing syllabification skills	☐	☐	☐	(238)
Practicing punctuation and paragraph skills	☐	☐	☐	
Developing comprehension skills	☐	☐	☐	
Improving comprehension rate	☐	☐	☐	
Developing listening skills	☐	☐	☐	
Reading aloud	☐	☐	☐	
Reading silently (independent silent reading)	☐	☐	☐	
Developing study skills	☐	☐	☐	
Developing library skills	☐	☐	☐	
Improving verbal communication	☐	☐	☐	
Creative writing	☐	☐	☐	(248)
Reading for enjoyment	☐	☐	☐	
Enriching cultural background	☐	☐	☐	
Improving self-image	☐	☐	☐	
Improving attitudes toward reading	☐	☐	☐	
Other (Specify) _____	☐	☐		(253)

47. About how often does each pupil in your compensatory reading class have the opportunity to read aloud to the class? (254)

- ☐ At least once a day
- ☐ Several times a week, but not daily
- ☐ About once a week
- ☐ Less than once a week, but regularly
- ☐ Seldom, or never on a regular basis

48. About how often does each pupil in your compensatory reading class have the opportunity to read aloud to you (or to another adult?) (255)

- ☐ At least once a day
- ☐ Several times a week, but not daily
- ☐ About once a week
- ☐ Less than once a week, but regularly
- ☐ Seldom, or never on a regular basis

45. How successful would you consider your teaching of compensatory reading to be with respect to each of the following criteria? (256-260)

	Highly Successful	Moderately Successful	Moderately Unsuccessful	Totally Unsuccessful	Not Applicable
Enhancing pre-reading or reading skills	☐	☐	☐	☐	☐
Enhancing measured reading achievement	☐	☐	☐	☐	☐
Improving attitudes toward reading	☐	☐	☐	☐	☐
Improving students' self-images	☐	☐	☐	☐	☐
Remediating cultural deprivation	☐	☐	☐	☐	☐

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C.R.P.T.

CLASS AND PROGRAM CHARACTERISTICS QUESTIONNAIRE:

NON-COMPENSATORY PROGRAMS

This questionnaire is designed to elicit information about your reading instruction and the group(s) to which you provide such instruction. Because reading instruction and instructional groups are so variable, some definitions are given below. Please keep the definitions in mind as you answer the questions, and refer to them as often as you need to.

In many instances, the questionnaire asks for information about classes. For purposes of this study, a class is any instructional group that is exposed to a common set of materials, personnel and/or services, however large and extensive that set might be, and that can sensibly be treated as a group in terms of its general characteristics. IF YOU ARE A MEMBER OF A TEAM THAT TOGETHER INSTRUCTS SUCH A GROUP, PLEASE COMPLETE THIS QUESTIONNAIRE TOGETHER WITH THE OTHER MEMBER(S) OF THE TEAM.

I. CLASS CHARACTERISTICS

1. If you are a classroom teacher, answer questions 2-4. If you are (7)
not a classroom teacher, check your title below and skip to
question 4.

- ☐ Reading teacher
- ☐ Other specialist teacher
- ☐ Counselor
- ☐ Teacher Aide
- ☐ Other (Specify) _____

2. How many pupils are in your class? (Give actual number.) (8-10)
- _____
- a. How many are boys? _____ (11-12)
- b. How many are girls? _____ (13-14)
3. How do the pupils in your class receive their reading instruction?
- ☐ All of the pupils in my class receive all of their reading instruction from me. (15)
- ☐ All of the pupils in my class receive all of their reading instruction from another teacher. (16)
- ☐ Some of the pupils in my class receive their reading instruction from me and some receive it from another teacher. (17)
- ☐ All of the pupils in my class receive their basic reading instruction from me but selected pupils receive additional reading instruction (18)
- ☐ from me
- ☐ from another teacher
- ☐ some from me and some from another teacher

The following questions refer ONLY to those pupils who receive their reading instruction from you. If all of the pupils in your class receive reading instruction from you, answer the questions in terms of the total class. If only some of the pupils receive reading instruction from you, answer the questions in terms of those pupils only.

4. How many pupils receive reading instruction from you? (19-21)
(Give actual number.)

a. How many are boys? _____ (22-23)

b. How many are girls? _____ (24-25)

5. What is the age of the oldest child in your reading class?

--	--	--	--

Years/Months

(26-29)

What is the age of the youngest child in your reading class?

--	--	--	--

Years/Months

(30-33)

6. About what percentage of the pupils in your reading class have received compensatory reading instruction prior to this year? (34)

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

7. About what percentage of the pupils in your reading class attended some form of preschool? (Include Headstart, day care, or nursery school. DO NOT INCLUDE PUBLIC SCHOOL KINDERGARTEN.) (35)

- ☐ None
☐ 1-25%
☐ 26-50%
☐ 51-75%
☐ 76-100%
☐ Don't know

8. About what percent of the pupils in your reading class are members of the following racial or national origin groups? (Mark one box on each lettered row.) (36-41)

	None	1-10%	11-50%	51-90%	91-100%
(a) Caucasian or White	☐	☐	☐	☐	☐
(b) Negro or Black	☐	☐	☐	☐	☐
(c) Spanish surnamed	☐	☐	☐	☐	☐
(d) Oriental	☐	☐	☐	☐	☐
(e) American Indian	☐	☐	☐	☐	☐
(f) Other (Specify) _____	☐	☐	☐	☐	☐

9. Estimate the percentage of the pupils in your reading class (42)
who are from homes in which the dominant language is not English.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

10. Among the homes where the dominant language is not English, what (43-48)
language(s) is (are) spoken? (Mark all that apply.)

- ☐ American Indian
- ☐ Chinese
- ☐ Japanese
- ☐ Spanish-Portuguese
- ☐ French
- ☐ Other (Specify) _____

11. Estimate the percentage of pupils in your reading class who have persistent problems in each of the following areas. (49-56)
(Mark one box in each lettered row.)

	None	1-10%	11-50%	51-90%	91-100%	Don't Know
(a) Speech	☐	☐	☐	☐	☐	☐
(b) Vision	☐	☐	☐	☐	☐	☐
(c) Hearing	☐	☐	☐	☐	☐	☐
(d) Frequent illness	☐	☐	☐	☐	☐	☐
(e) Mental retardation	☐	☐	☐	☐	☐	☐
(f) Emotional problems	☐	☐	☐	☐	☐	☐
(g) Family instability	☐	☐	☐	☐	☐	☐
(h) Other (Specify)		☐	☐	☐	☐	☐

12. Estimate the percentage of pupils in your reading class whose family incomes are derived from each of the following occupational categories. (Mark one box in each lettered row.) (57-62)

	None	1-10%	11-50%	51-90%	91-100%	
(a) Unskilled or service workers	☐	☐	☐	☐	☐	
(b) Skilled workers or farm owners	☐	☐	☐	☐	☐	
(c) White collar workers (clerks, salespeople, etc.)	☐	☐	☐	☐	☐	
(d) Business owners or managers	☐	☐	☐	☐	☐	
(e) Professionals (doctors, lawyers, etc.)	☐	☐	☐	☐	☐	
(f) Unemployed	☐	☐	☐	☐	☐	
(g) Don't know		☐	☐	☐	☐	(63)

13. What is the average absentee rate in your reading class? (About what percentage of the class is absent on any given day?) (64)

☐ 0-10%

☐ 11-20%

☐ 21-30%

☐ 31-40%

☐ 41-50%

☐ More than 50%

14. Which of the following would you judge to be the major cause of absenteeism among your pupils? (Mark yes or no for each cause.) (65-70)

1 Yes	2 No	
☐	☐	Illness of pupil
☐	☐	Illness of other family member(s)
☐	☐	Lack of parental concern
☐	☐	Need for pupil to perform other duties at home
☐	☐	Suspension or expulsion
☐		Other (Specify) _____

15. Estimate the percentage of your pupils whose families have moved into this school attendance area before the end of the school year. (71)

☐ None

☐ 1-25%

☐ 26-50%

☐ 51-75%

☐ 76-100%

☐ Can't estimate

16. Estimate the percentage of your pupils who have moved out of the school attendance area this year. (72)

☐ None

☐ 1-25%

☐ 26-50%

☐ 51-75%

☐ 76-100%

☐ Can't estimate

Questions 17 and 18 ask your opinions about the pupils you teach. Please answer the questions as candidly as you are able; there are no "right" answers to these questions.

17. How far do you expect the average pupil in your reading class would be able to go in school if he were given the opportunity? (73)
(Mark only one box.)

- ☐ Eighth grade, or lower
- ☐ Ninth, tenth, or eleventh grade
- ☐ High school graduate
- ☐ Junior college, business school, or some other post-secondary course, but not a four year college
- ☐ Four year college or beyond
- ☐ Other (Specify) _____

18. How far do you expect the average pupil in your reading class will actually go in school? (74)
(Mark only one box.)

- ☐ Eighth grade, or lower
- ☐ Ninth, tenth, or eleventh grade
- ☐ High school graduate
- ☐ Junior college, business school, or some other post-secondary course, but not a four year college
- ☐ Four year college or beyond
- ☐ Other (Specify) _____

II. PROGRAM CHARACTERISTICS

The following questions refer to your reading instruction. If you are a classroom teacher, and all of the pupils in your class receive reading instruction from you, answer the questions in terms of the total class. If only some of the pupils receive reading instruction from you, answer the questions in terms of those pupils only, and in terms of that part of the instructional program that is directed to them.

19. What is the average amount of formal instructional time per student in reading?

a. Minutes per instructional period:

(75)

- | | |
|----------------------------------|---------------------------------------|
| 1 ☐ 1-15 | 5 ☐ 51-60 |
| 2 ☐ 16-30 | 6 ☐ 61-75 |
| 3 ☐ 31-40 | 7 ☐ 76-90 |
| 4 ☐ 41-50 | 8 ☐ 91 or more |

b. Number of instruction periods per week:

(76)

- | | |
|---|---|
| 1 ☐ One | 3 ☐ Four or five |
| 2 ☐ Two or three | 4 ☐ More than five |

20. Do most pupils receive reading instruction at the same time of day every instructional day? (77)

- 1 ☐ Yes
2 ☐ No

a. If yes, when is the instructional period?

(78)

- ☐ Before school
- ☐ Morning only (before lunch)
- ☐ Afternoon only (after lunch)
- ☐ Both mornings and afternoons
- ☐ After school

b. If no, when does instruction usually take place?

(79)

- ☐ Mostly in the morning
- ☐ Mostly in the afternoon
- ☐ About equally divided between mornings and afternoons

21. What additional personnel are available to you in your teaching of reading?

(80-88)

	Often	Some- Times	Rarely	Not Available
Remedial reading teacher or supervisor	☐	☐	☐	☐
Other professionals (counselors, psychologists, etc.)	☐	☐	☐	☐
Paraprofessionals or teacher aides	☐	☐	☐	☐
Parent or other volunteer	☐	☐	☐	☐
Student teacher	☐	☐	☐	☐
Media specialist	☐	☐	☐	☐
Resource teacher (music, art, etc.)	☐	☐	☐	☐
Older student in school	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	

22. During the school year, how many teachers other than yourself have held your particular teaching assignment with your reading class for at least two consecutive weeks? COUNT SUBSTITUTE TEACHERS AND REPLACEMENT TEACHERS. DO NOT COUNT STUDENT TEACHERS OR CLASSROOM AIDES. (89)

- ☐ None
☐ 1
☐ 2
☐ 3
☐ More than 3

23. If your reading class is organized into groups, indicate the frequency with which you organize these groups by each of the following criteria. (90-94)

	Often	Some- Times	Rarely	Never
Reading grade level	☐	☐	☐	☐
Specific skill deficiencies	☐	☐	☐	☐
Shared interests	☐	☐	☐	☐
Specific projects	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	

- ☐ Check here if your reading class is not organized into groups.

24. If your reading class is organized into groups, about how frequently does the composition of the group change? (95)

- ☐ Daily
☐ Weekly
☐ Bi-weekly
☐ Monthly
☐ Rarely, if ever
☐ Other (Specify) _____

25. How often do the following instructional groups operate (occur) in the course of your teaching of reading? (96-102)

	All of the time	Often	Some- Times	Rarely or Never
Adult and child in one-to-one relationship	☐	☐	☐	☐
Adult and children in groups of between 2 and 10	☐	☐	☐	☐
Adult and children in groups of between 11 and 20	☐	☐	☐	☐
Adult and children in groups of more than 20 (includes whole class instruction)	☐	☐	☐	☐
Individual pupils working independently	☐	☐	☐	☐
Pupil teams working independently	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐

26. In a sentence or two, describe the outstanding features of your reading program.

27. Which one of the following terms comes closest to describing your major classroom approach to the teaching of reading? (103)

- ☐ Linguistic-phonetic
- ☐ Language experience
- ☐ Combination of language experience and linguistic or phonetic
- ☐ Modified alphabet
- ☐ Other (Specify) _____
- ☐ Don't know

28. How long have you used this method? (104)

- ☐ This is the first year
- ☐ For one or two years
- ☐ For three, four, or five years
- ☐ For six years or more

29. To what extent do you use each of the following approaches to teaching reading in your classroom? (105-115)

	Not at All	Minimally	Somewhat	Exten- sively
Basal readers	☐	☐	☐	☐
Programmed instruction	☐	☐	☐	☐
A total phonics program	☐	☐	☐	☐
A supplementary phonics program	☐	☐	☐	☐
Language experience	☐	☐	☐	☐
A linguistic program	☐	☐	☐	☐
Non-standard orthography (example: i.t.a.)	☐	☐	☐	☐
Words in color	☐	☐	☐	☐
Individualized programs	☐	☐	☐	☐
Technological devices such as "talking typewriter" or teaching machines	☐	☐	☐	☐
Other (Specify and describe)		☐	☐	☐

30. Who selected the materials that you are currently using in your teaching of reading? (116)

- ☐ You, and you alone
- ☐ You, as a member of a team or committee
- ☐ An individual who asked for your views; or a team or committee of which you were not a member but on which your views were represented
- ☐ An individual, team, or committee, operating without any input from you
- ☐ Materials are dictated by state or local educational authority
- ☐ Other (Specify) _____

31. How satisfied are you with the materials you are currently using in your teaching of reading? (117)

- ☐ Totally satisfied
- ☐ Satisfied in major aspects; dissatisfied in some minor ones
- ☐ Lukewarm; neither devoted nor opposed to the materials
- ☐ Dissatisfied in major aspects; satisfied only in some minor ones
- ☐ Totally dissatisfied

32. How frequently do you use the following materials in the course of your reading instruction?

(118-127)

	Not Available	Often	Some- Times	Rarely or Never Use
Textbooks other than basal readers	☐	☐	☐	☐
Books and printed materials other than textbooks	☐	☐	☐	☐
Newspapers, magazines, and other periodicals	☐	☐	☐	☐
Teacher-prepared materials (dittos, etc.)	☐	☐	☐	☐
Motion pictures and/or filmstrips	☐	☐	☐	☐
Slides and transparencies	☐	☐	☐	☐
Tape recordings and records	☐	☐	☐	☐
Video or television tapes	☐	☐	☐	☐
Games, puzzles, and toys	☐	☐	☐	☐
Other (Specify)		☐	☐	☐

33. How much time does a typical pupil in your reading class spend in each of the following types of activities? (129-142)

	A great deal	Some	Little or none
Improving motor abilities related to reading	☐	☐	☐
Increasing attention span	☐	☐	☐
Developing visual discrimination	☐	☐	☐
Matching letters or words	☐	☐	☐
Learning letter forms	☐	☐	☐
Developing a sight vocabulary (whole word recognition)	☐	☐	☐
Learning word meanings (vocabulary)	☐	☐	☐
Phonic and/or structural analysis	☐	☐	☐
Being read to	☐	☐	☐
Reading aloud	☐	☐	☐
Reading silently (independent silent reading)	☐	☐	☐
Creative writing	☐	☐	☐
Reading for enjoyment	☐	☐	☐
Enriching cultural background	☐	☐	☐
Other (Specify) _____	☐	☐	☐

34. Have you had any special training in the teaching of reading or in instructional techniques for disadvantaged pupils in connection with your current teaching assignment? (143)

1 ☐ Yes

2 ☐ No

If no, skip to question 39.

If yes, please answer questions 35-38.

35. What form did the special training take? (Check all that apply.) (144-149)

- ☐ Summer workshop or institute
- ☐ College course (whether or not for degree credit)
- ☐ After school or weekend workshop
- ☐ Released-time workshop
- ☐ Individual instruction with supervised practice teaching
- ☐ Other (Specify) _____

36. Which of the following areas were explored in the course of the special training you received? (Check all that apply.) (150-156)

- ☐ New instructional techniques in reading
- ☐ Diagnosis of reading problems
- ☐ Open classroom methods
- ☐ Individualized instruction
- ☐ Use of equipment and materials
- ☐ Techniques for cultural enrichment
- ☐ Other(s) (Specify) _____

37. Over what period of time did the special training extend?

(157)

- ☐ One summer
- ☐ One semester
- ☐ One academic year
- ☐ One calendar year
- ☐ One summer and one academic year
- ☐ Other (Specify) _____

38. How long ago did you receive your special training?

(158)

- ☐ Training is still in progress
- ☐ Less than one year ago
- ☐ More than one but less than two years ago
- ☐ More than two but less than three years ago
- ☐ Three or more years ago

39. How would you rate each of the following activities in terms of importance to you as goals in your current teaching of reading?

	Major goal	Secondary goal	Of little or no importance as a goal	
Improving motor abilities related to reading	☐	☐	☐	(159)
Increasing attention span	☐	☐	☐	
Developing auditory discrimination	☐	☐	☐	
Developing visual discrimination	☐	☐	☐	
Matching letters or words	☐	☐	☐	
Learning letter forms	☐	☐	☐	
Developing a sight vocabulary (whole word recognition)	☐	☐	☐	
Learning word meanings (vocabulary)	☐	☐	☐	
Phonic and/or structural analysis	☐	☐	☐	
Developing skill in using context clues	☐	☐	☐	
Practicing syllabification skills	☐	☐	☐	(169)
Practicing punctuation and paragraph skills	☐	☐	☐	
Developing comprehension skills	☐	☐	☐	
Improving comprehension rate	☐	☐	☐	
Developing listening skills	☐	☐	☐	
Reading aloud	☐	☐	☐	
Reading silently (independent silent reading)	☐	☐	☐	
Developing study skills	☐	☐	☐	
Developing library skills	☐	☐	☐	
Improving verbal communication	☐	☐	☐	
Creative writing	☐	☐	☐	(179)
Reading for enjoyment	☐	☐	☐	
Enriching cultural background	☐	☐	☐	
Improving self-image	☐	☐	☐	
Improving attitudes toward reading	☐	☐	☐	
Other (Specify) _____	☐	☐	☐	(184)

40. For a typical pupil in your reading class, about how much in-school time is devoted to each of the following reading or reading-related activities? (185-192)

	None	Less than 1 hour per week	Between 1 and 4 hrs/wk	More than 1 hour a day (5+ hrs/wk)
Basic reading instructional program	☐	☐	☐	☐
Compensatory reading	☐	☐	☐	☐
Instructional program (only if compensatory reading program is different from basic instructional program)	☐	☐	☐	☐
Reading in content areas (science, social studies, etc.)	☐	☐	☐	☐
Independent (self-selected) reading	☐	☐	☐	☐
Library activities	☐	☐	☐	☐
Enrichment activities (include trips, special assemblies, etc.)	☐	☐	☐	☐
Other relevant activities (Specify)		☐	☐	☐

41. Please indicate below what materials you use in your reading instruction, and to what extent you use them.

Series Titles (Specify)	Use as major resource	Supple- mental or optional material	Use for refer- ence	Don't use at all	
Scott _____ Forsmann _____	☐	☐	☐	☐	(193)
_____	☐	☐	☐	☐	
Harper _____ Row _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Macmillan _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
American _____ Book Co. _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Ginn & Co. _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Houghton- _____ Mifflin _____	☐	☐	☐	☐	(203)
_____	☐	☐	☐	☐	
Lippin- _____ cott _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Allyn & _____ Bacon _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Holt, _____ Rinehart _____	☐	☐	☐	☐	
Winston _____	☐	☐	☐	☐	
SRA _____	☐	☐	☐	☐	
_____	☐	☐	☐	☐	
Harcourt _____ Brace & _____	☐	☐	☐	☐	(213)
World _____	☐	☐	☐	☐	
Open Court _____	☐	☐	☐	☐	
ITA _____	☐	☐	☐	☐	
Merrill Linguistics _____	☐	☐	☐	☐	(217)

List all additional important materials used, including hardware

Use as major resource

Supplemental or optional material

Use for reference

☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

(218-222)

Use back of booklet to list additional materials

42. Do you create any of the materials you use in teaching reading? (223)

1 ☐ Yes

2 ☐ No

a. If yes, which of the following types of materials do you create? (Check all that apply.) (224-232)

☐ Worksheets

☐ Printed stories, poems, or essays

☐ Transparencies for overhead projector

☐ Filmstrips

☐ Slides

☐ Motion pictures

☐ Charts

☐ Tapes

☐ Other (Specify) _____

43. About how often does each pupil in your reading class have the opportunity to read aloud to the class? (233)

- ☐ At least once a day
- ☐ Several times a week, but not daily
- ☐ About once a week
- ☐ Less than once a week, but regularly
- ☐ Seldom, or never on a regular basis

44. About how often does each pupil in your reading class have the opportunity to read aloud to you (or to another adult)? (234)

- ☐ At least once a day
- ☐ Several times a week, but not daily
- ☐ About once a week
- ☐ Less than once a week, but regularly
- ☐ Seldom, or never on a regular basis

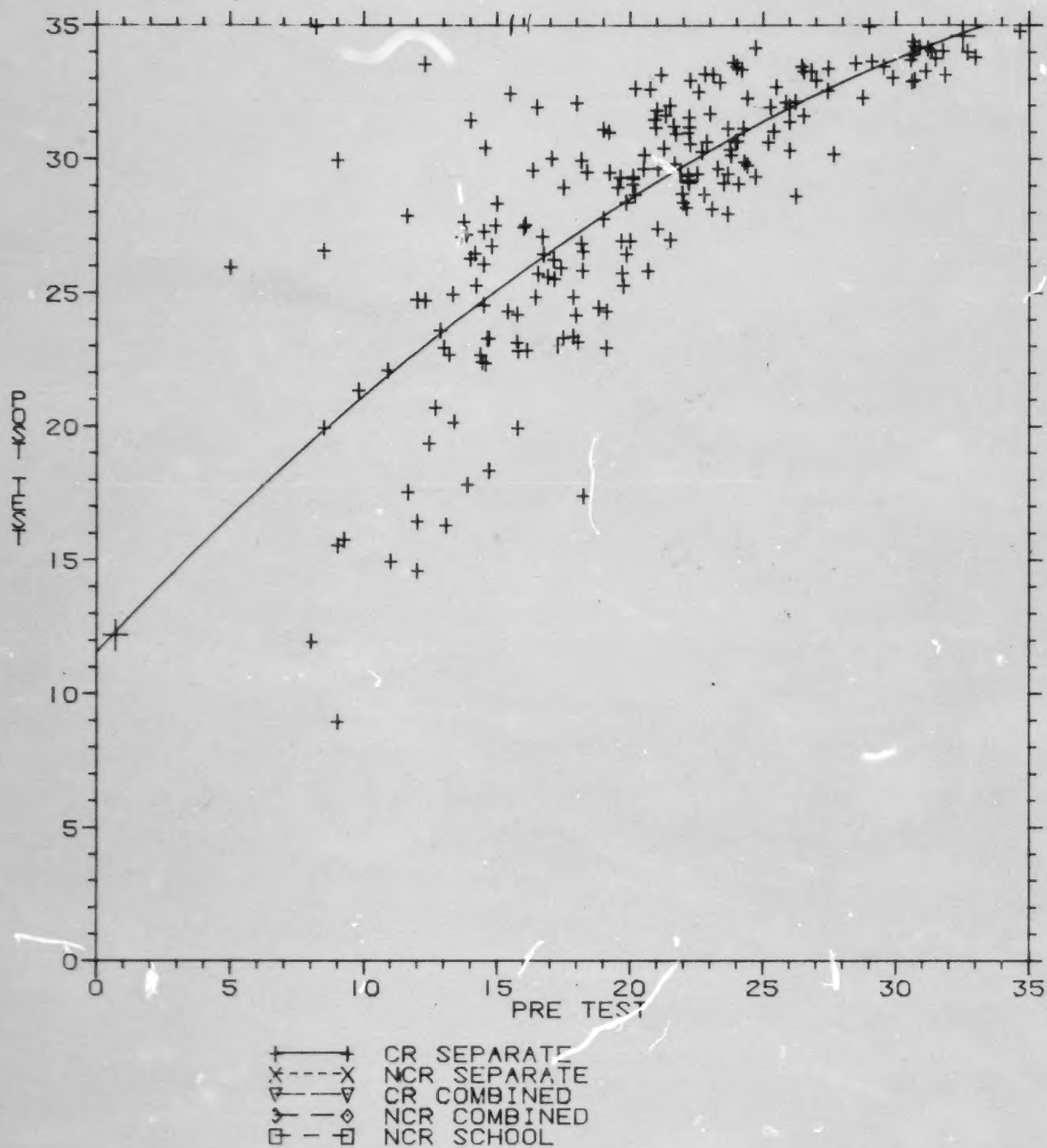
45. How successful would you consider your teaching of reading to be with respect to each of the following criteria?

(235-239)

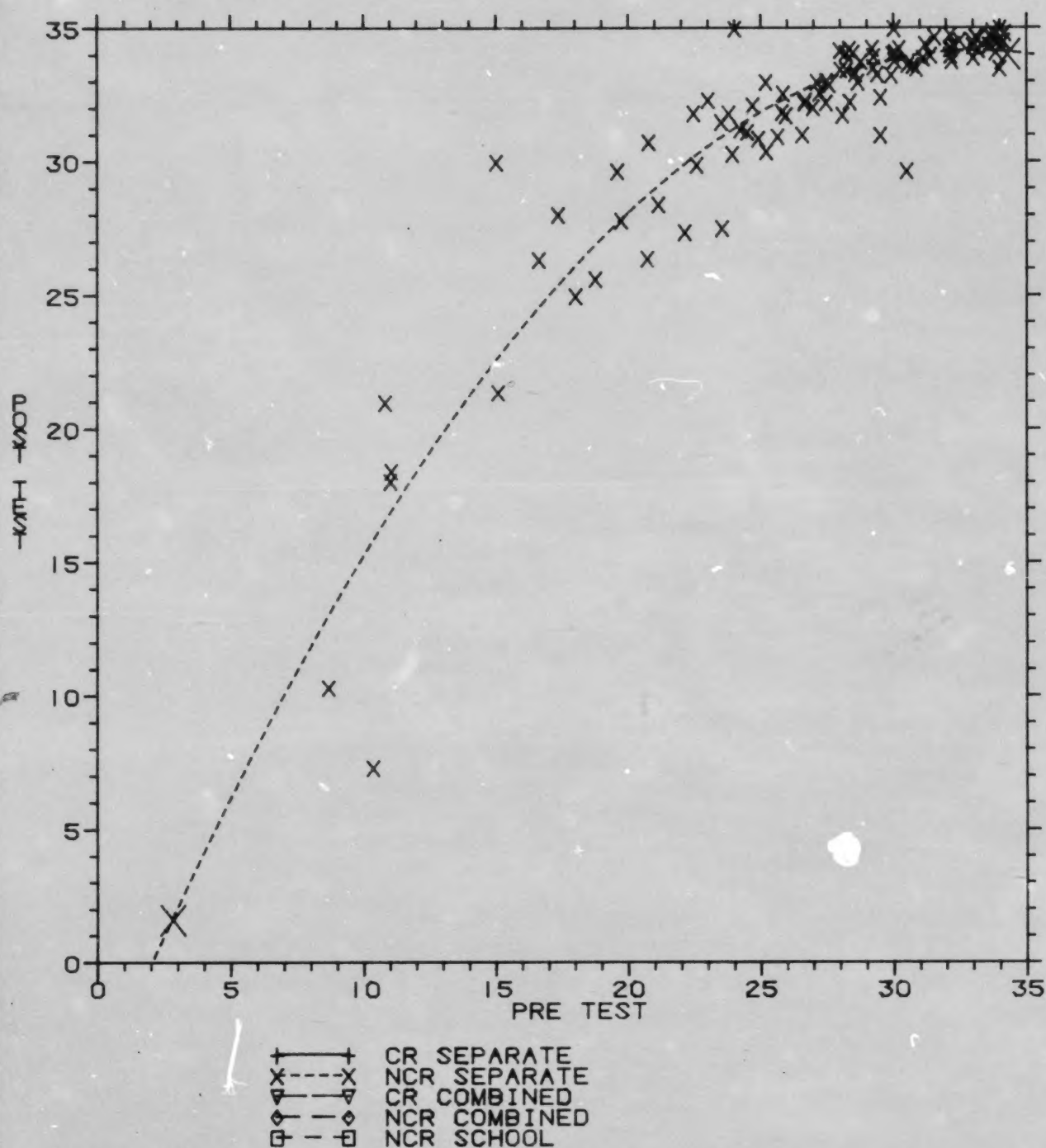
	Highly Successful	Moderately Successful	Moderately Unsuccessful	Totally Unsuccessful	Not Applicable
Enhancing pre-reading or reading skills	☐	☐	☐	☐	☐
Enhancing measured reading achievement	☐	☐	☐	☐	☐
Improving attitudes toward reading	☐	☐	☐	☐	☐
Improving students' self images	☐	☐	☐	☐	☐
Remediating cultural deprivation	☐	☐	☐	☐	☐

APPENDIX B

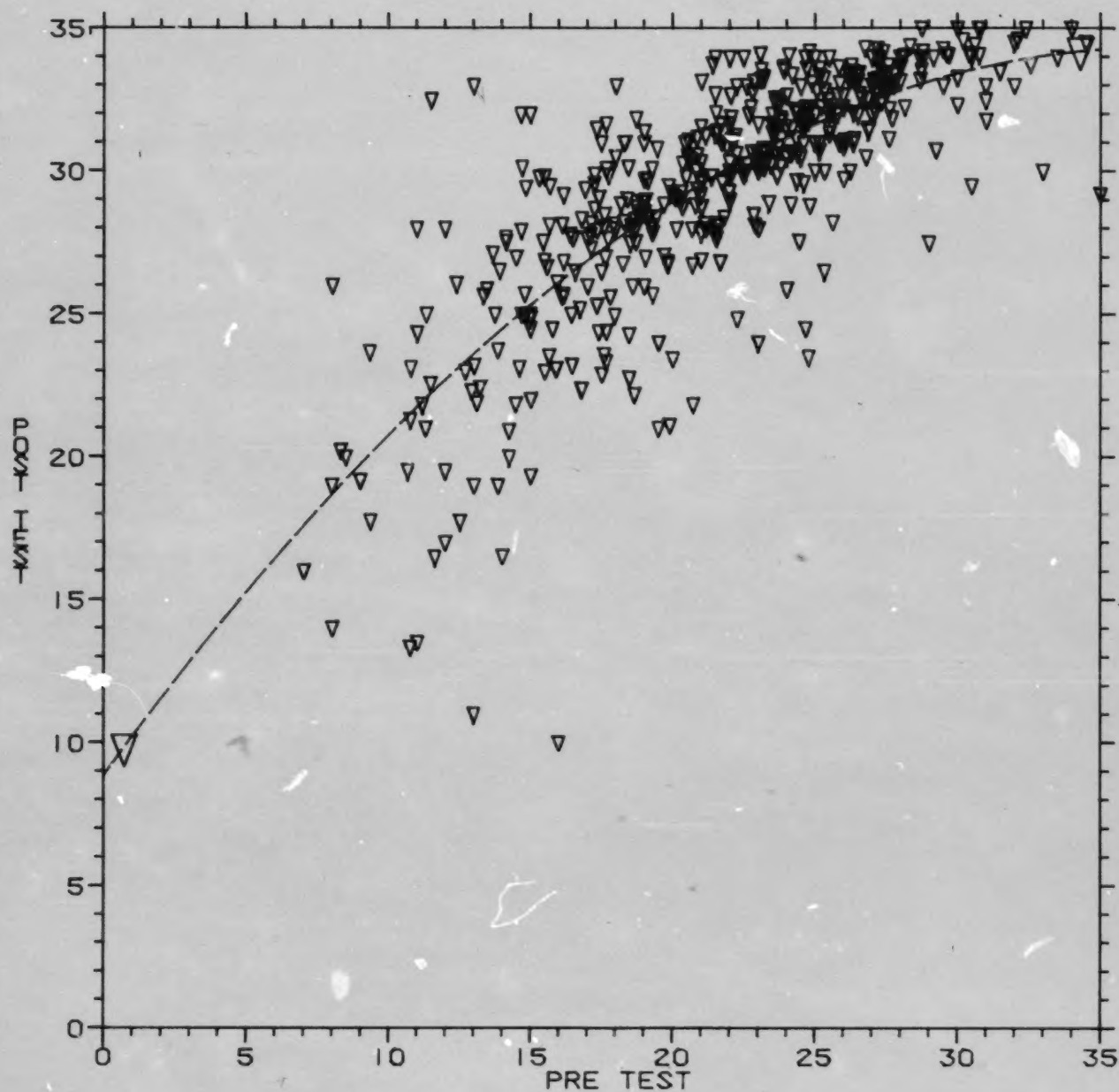
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT WORD KNOWLEDGE



COMPENSATORY READING - PHASE 2
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 GRADE 2, TEST IS MAT WORD KNOWLEDGE

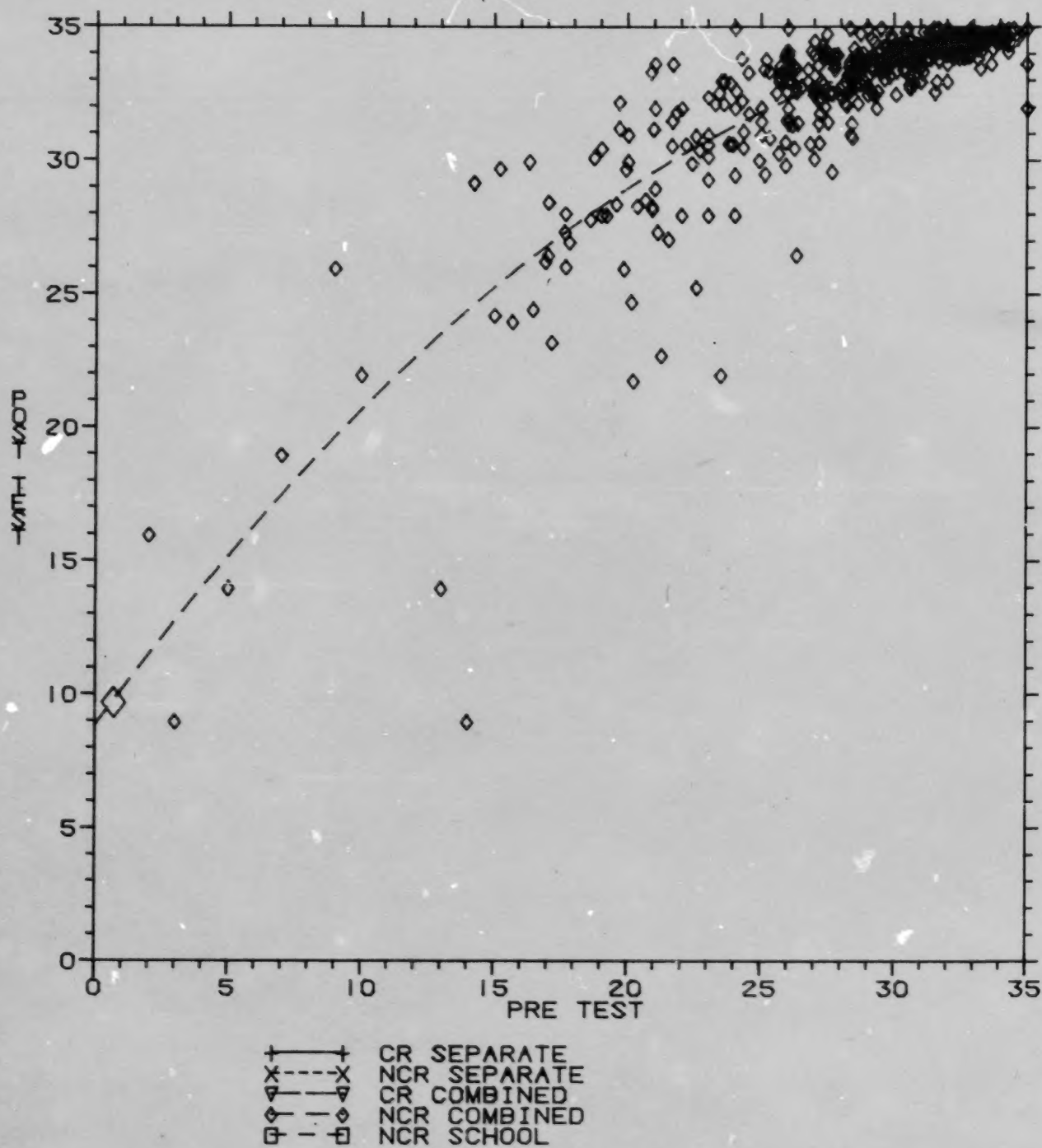


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT WORD KNOWLEDGE

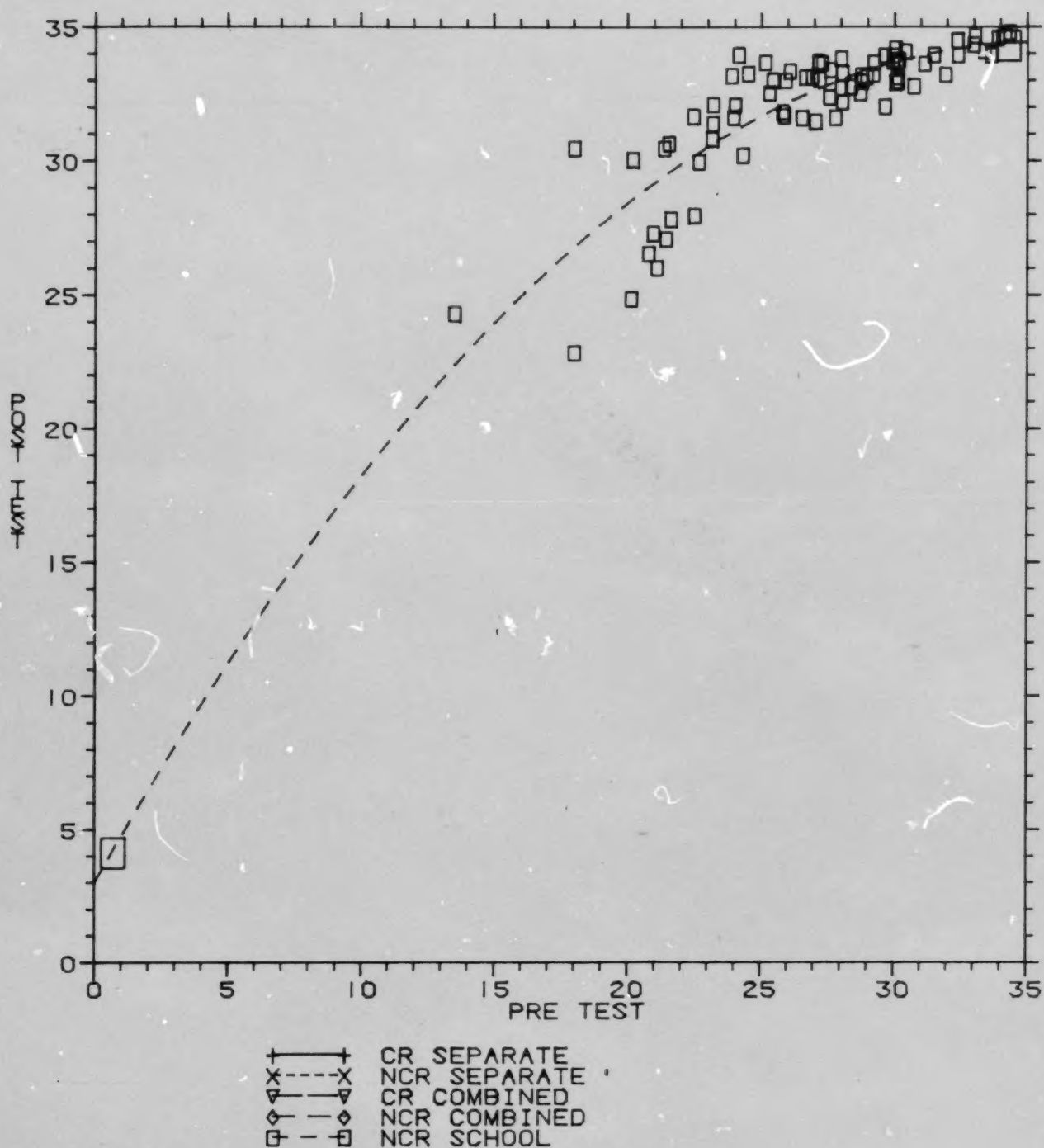


+ — + CR SEPARATE
 x — x NCR SEPARATE
 v — v CR COMBINED
 o — o NCR COMBINED
 □ — □ NCR SCHOOL

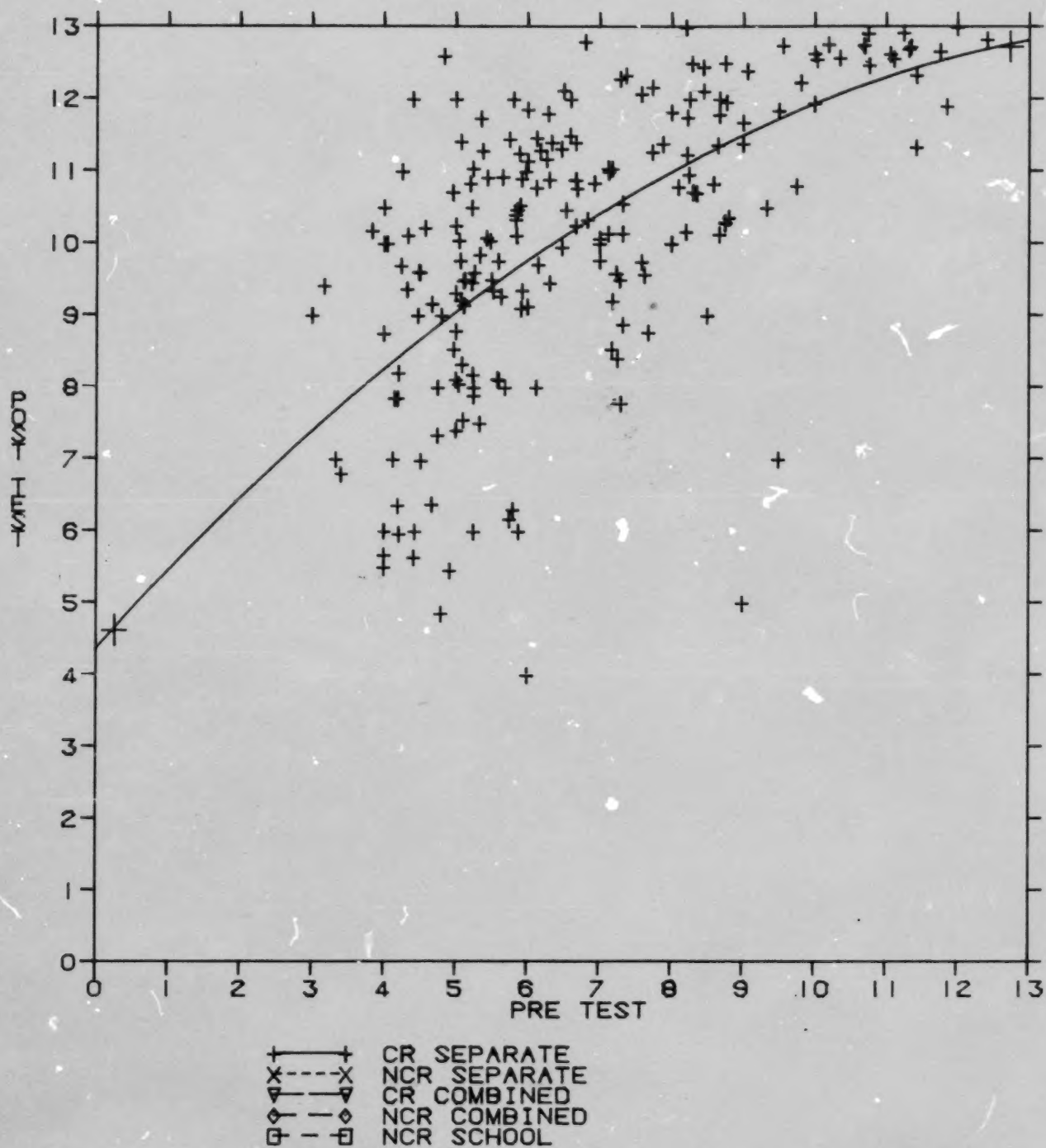
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT WORD KNOWLEDGE



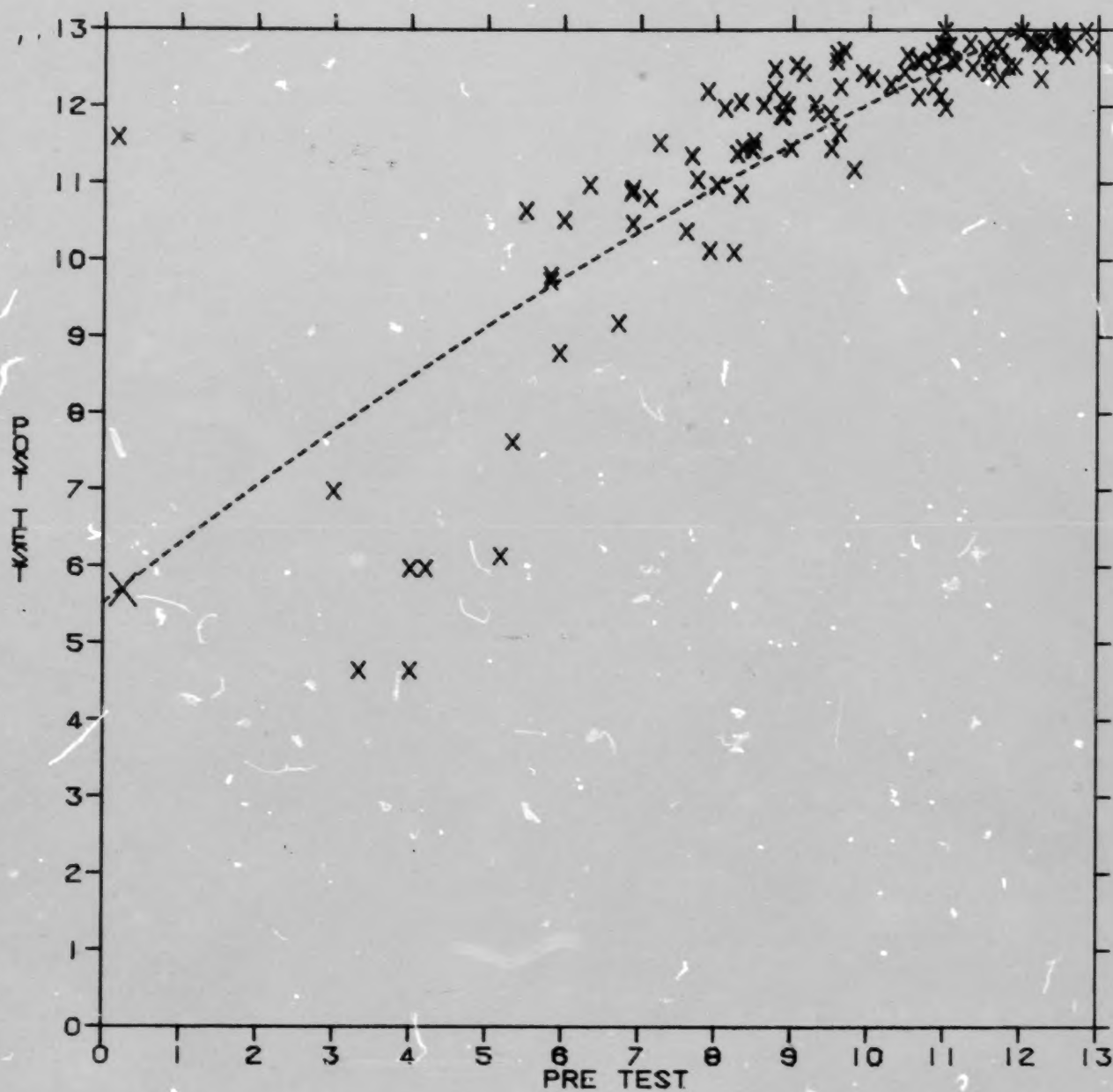
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT WORD KNOWLEDGE



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT SENTENCES

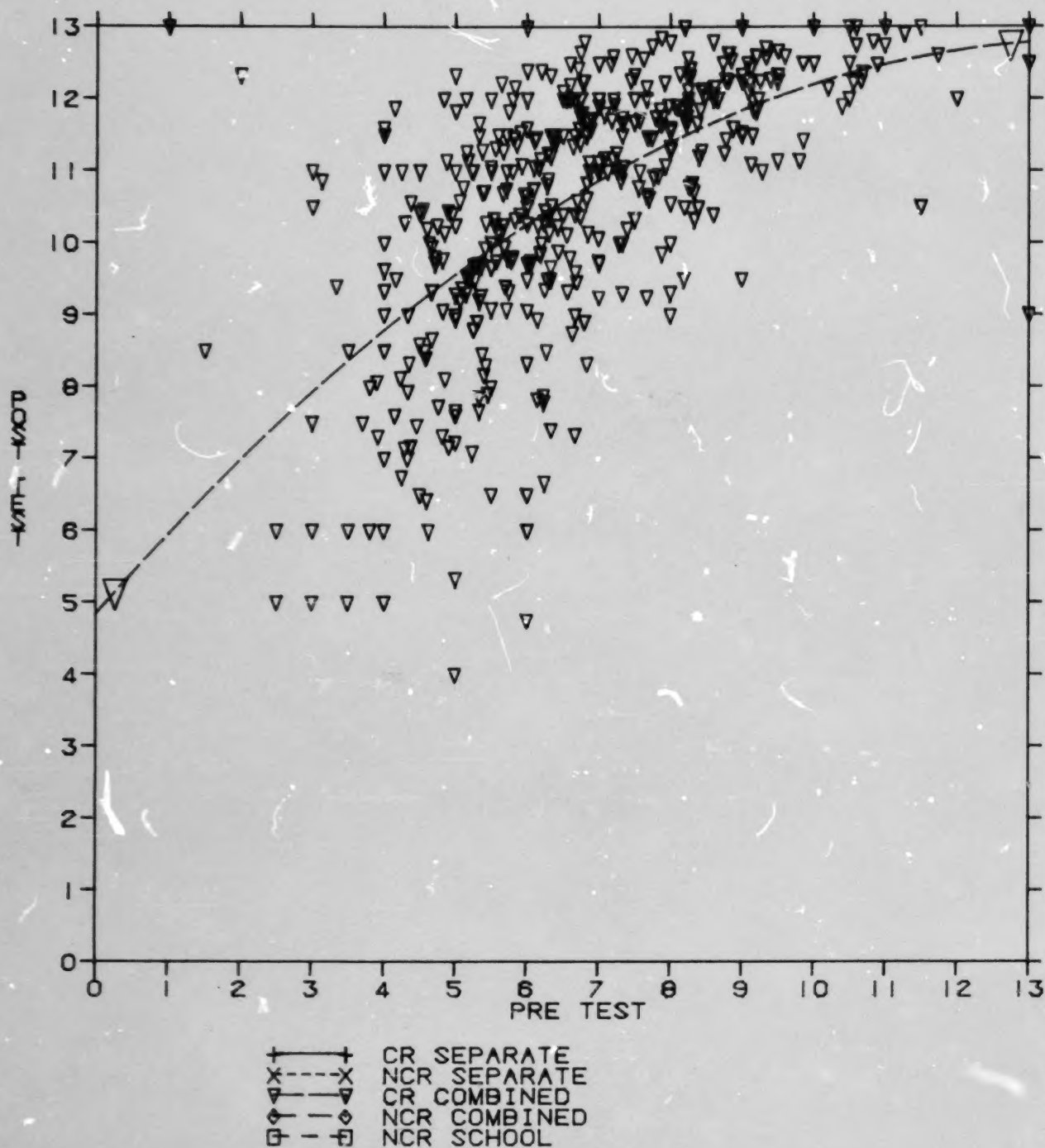


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT SENTENCES

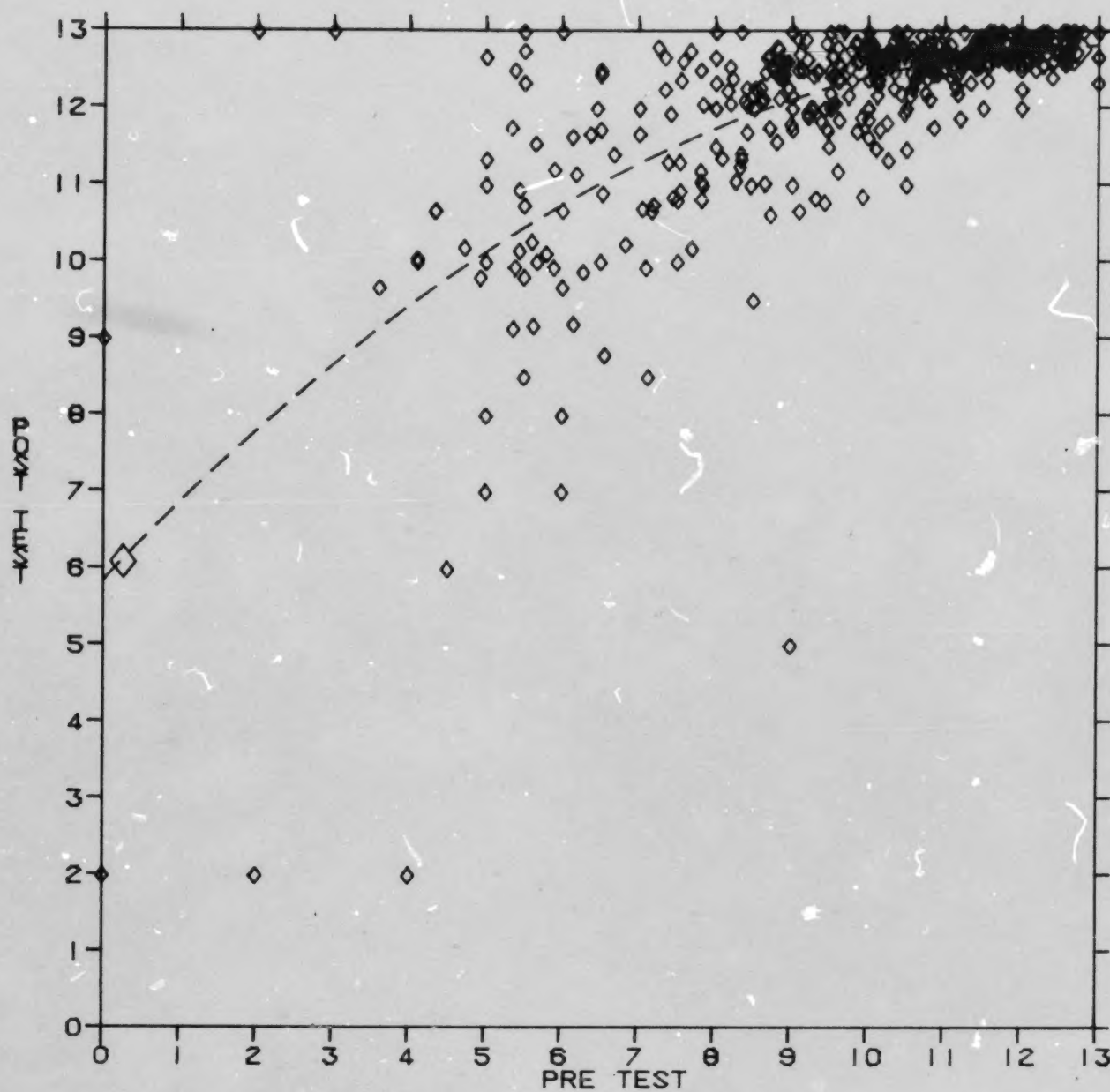


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 x-----x NCR SEPARATE
 v-----v CR COMBINED
 o-----o NCR COMBINED
 □-----□ NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT SENTENCES

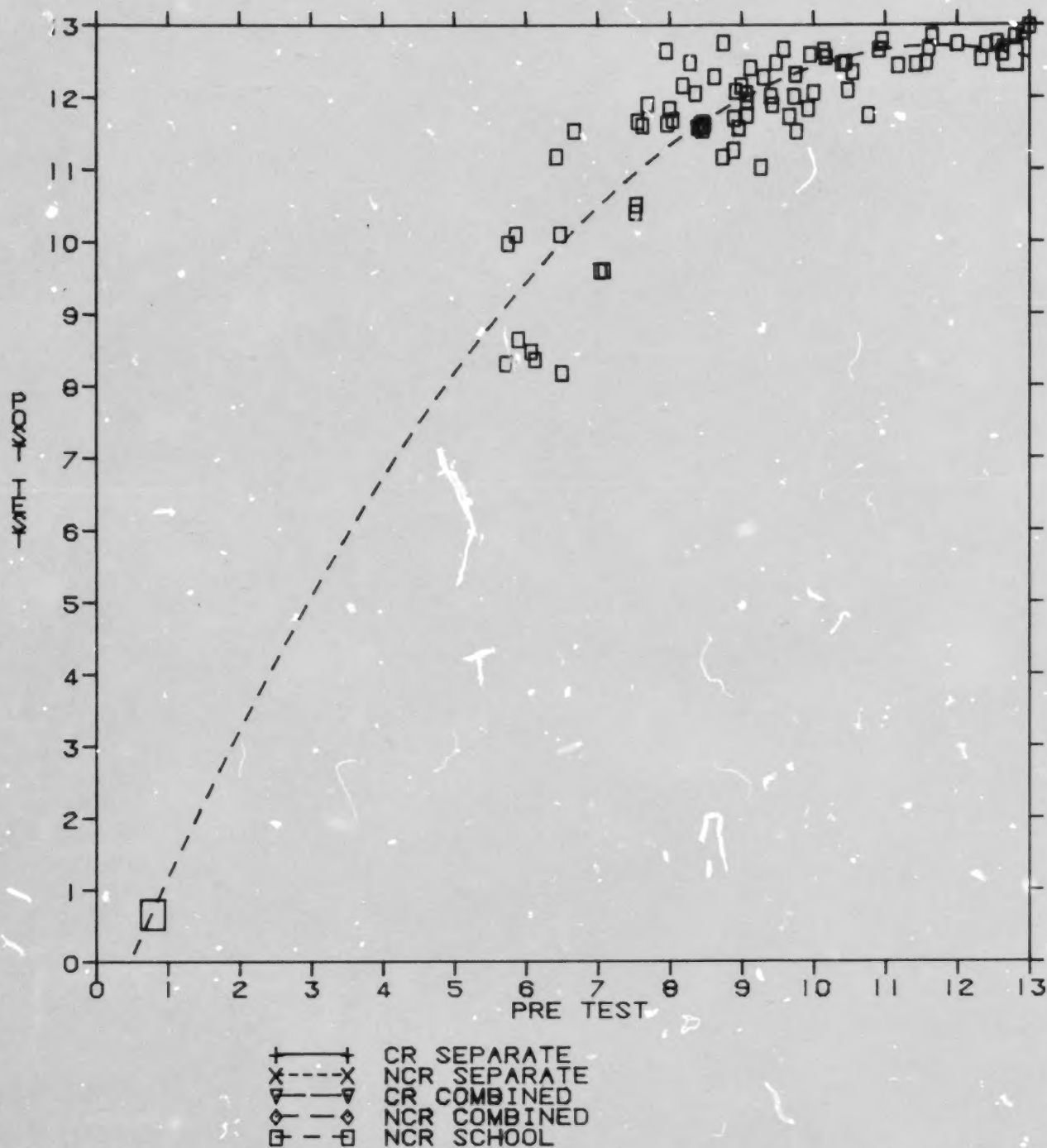


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT SENTENCES

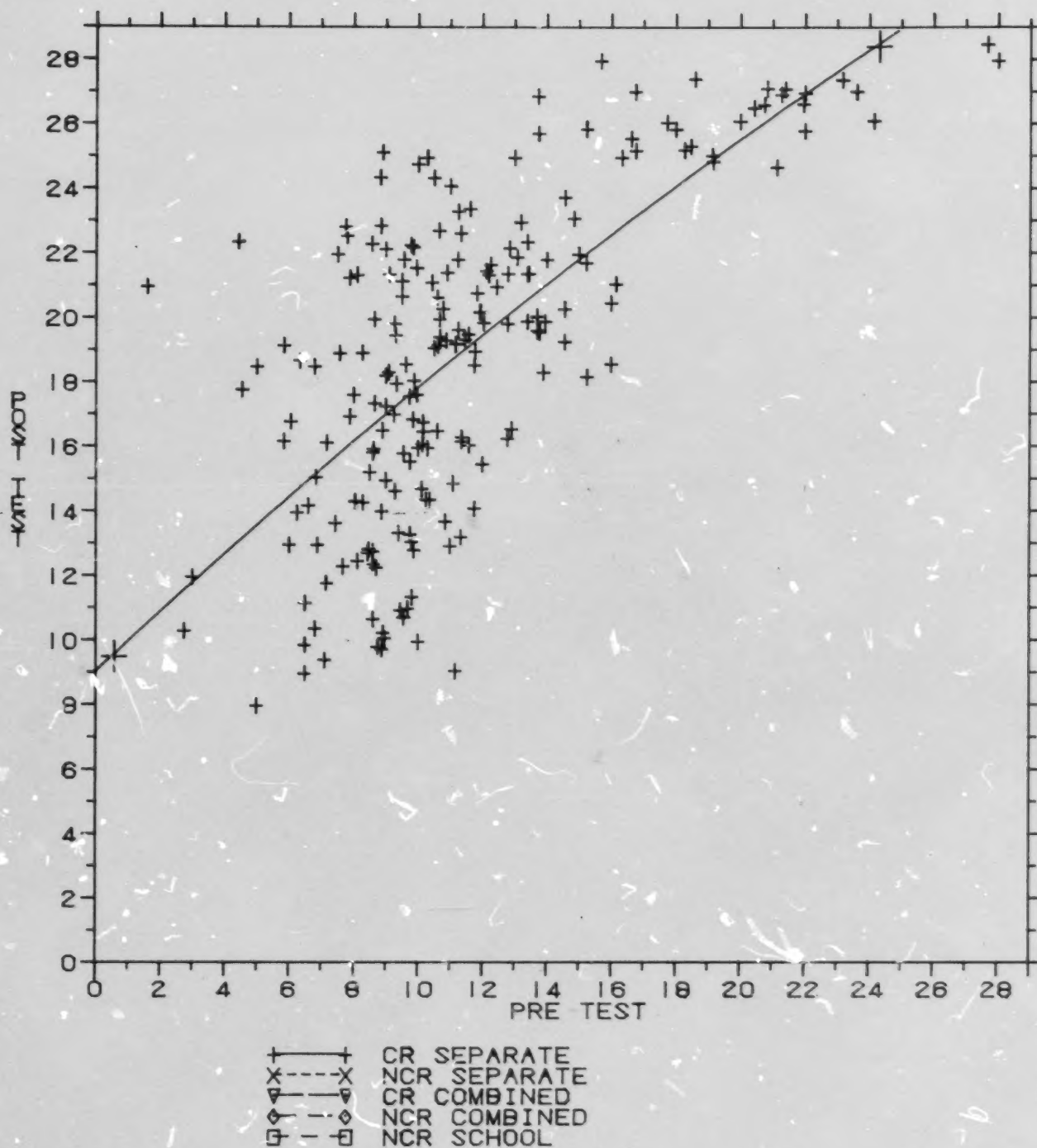


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 x — x NCR SEPARATE
 ▽ — ▽ CR COMBINED
 ♦ — ♦ NCR COMBINED
 □ — □ NCR SCHOOL

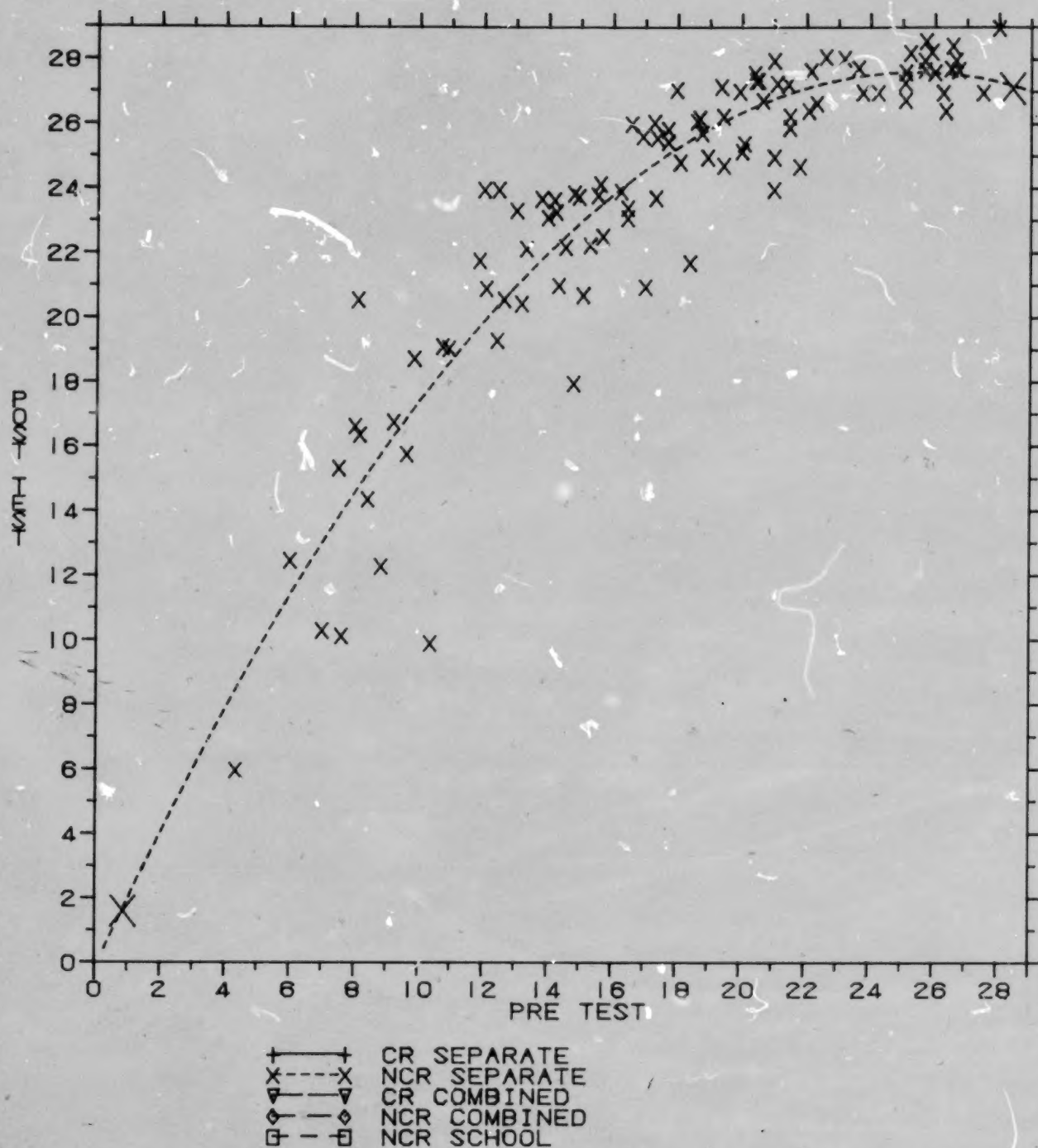
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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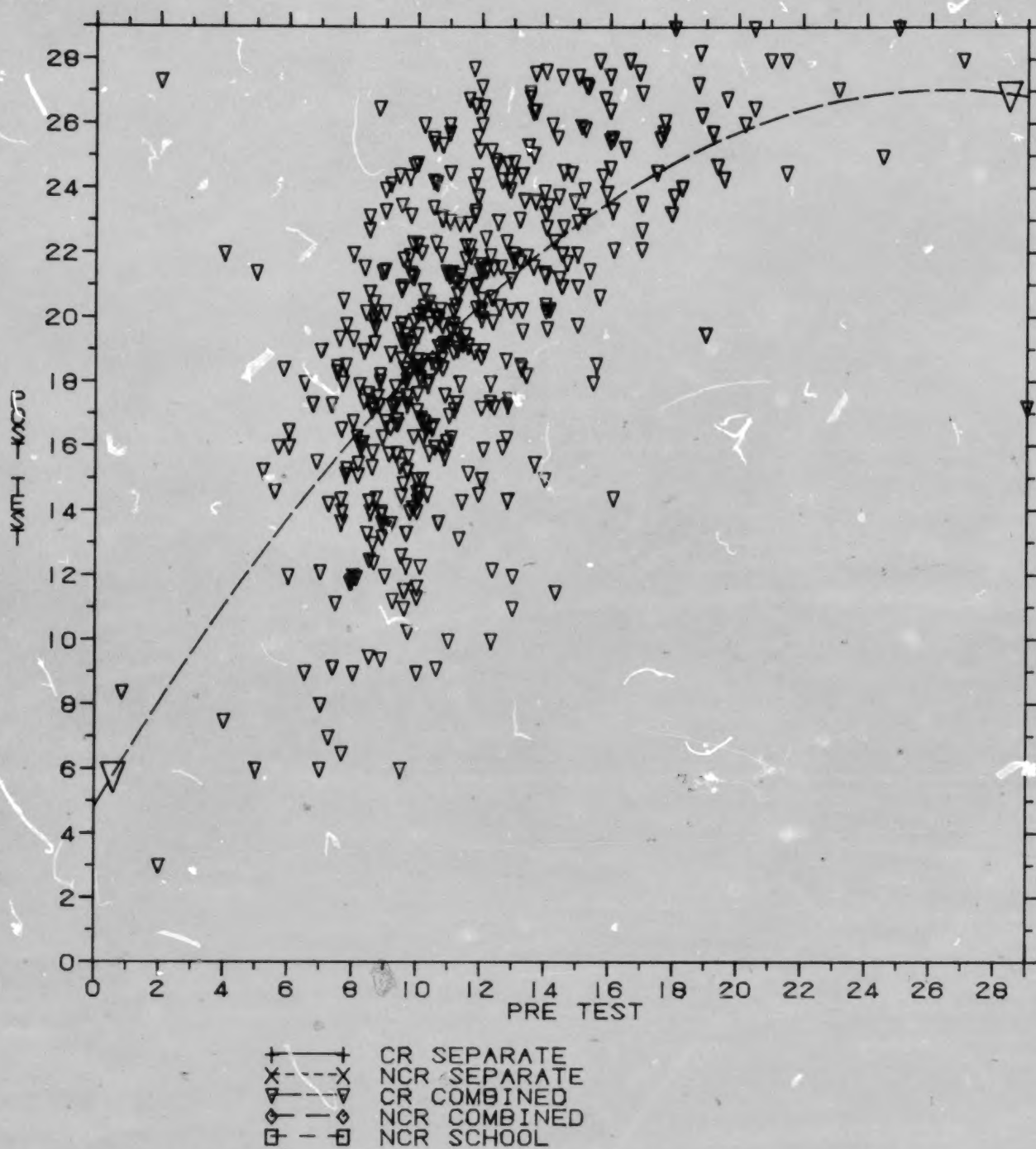
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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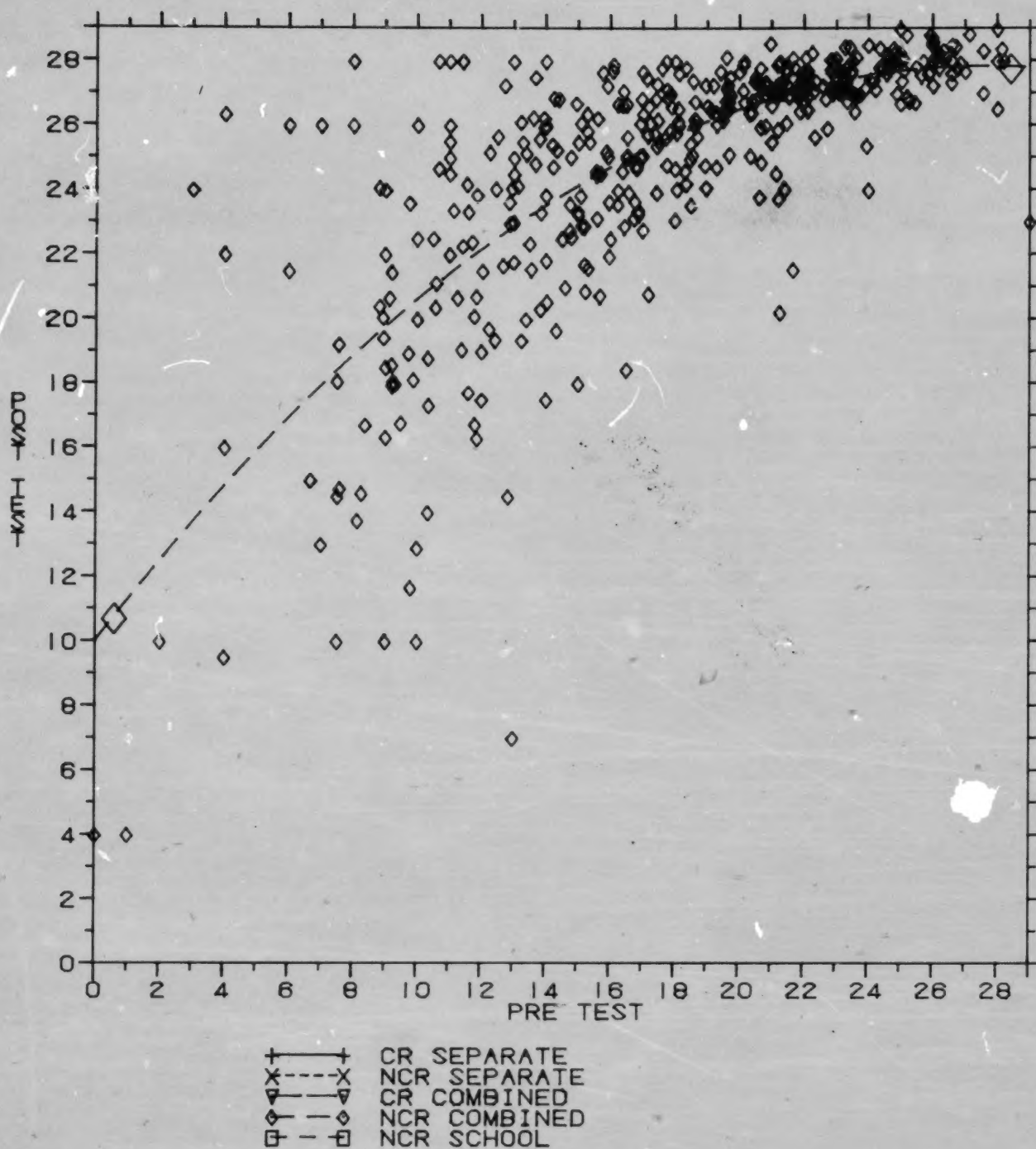
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST IS MAT STORIES



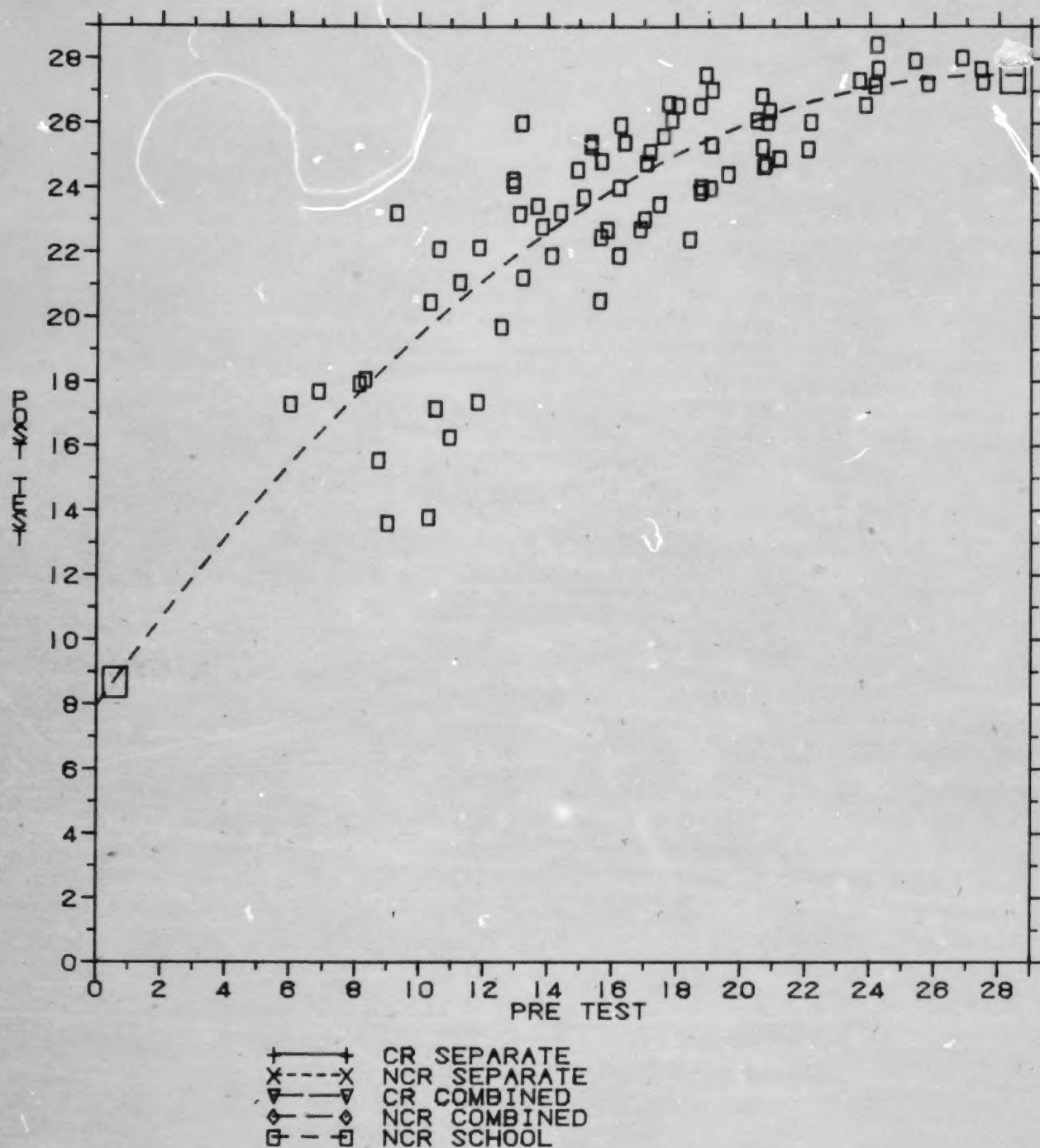
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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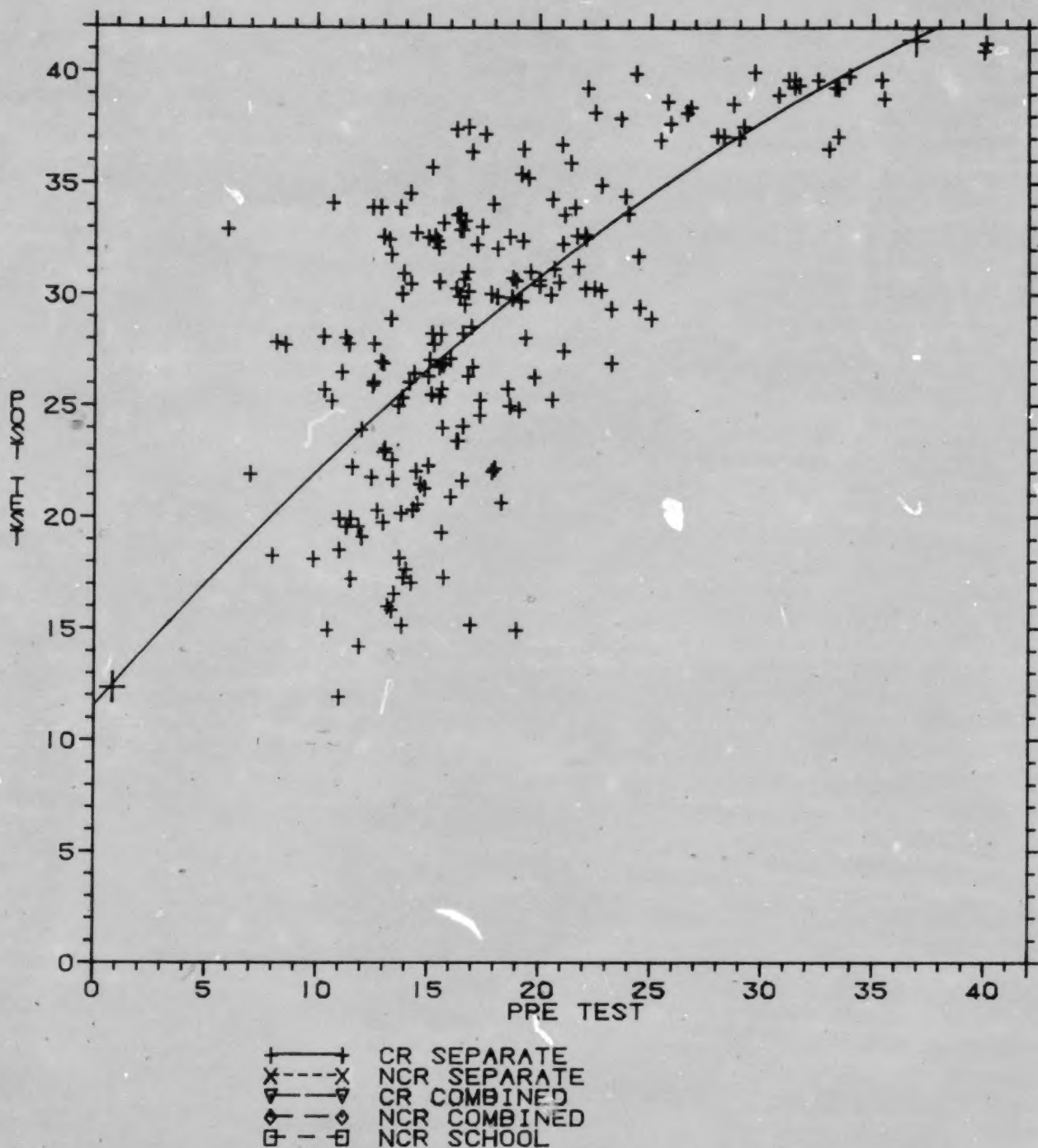
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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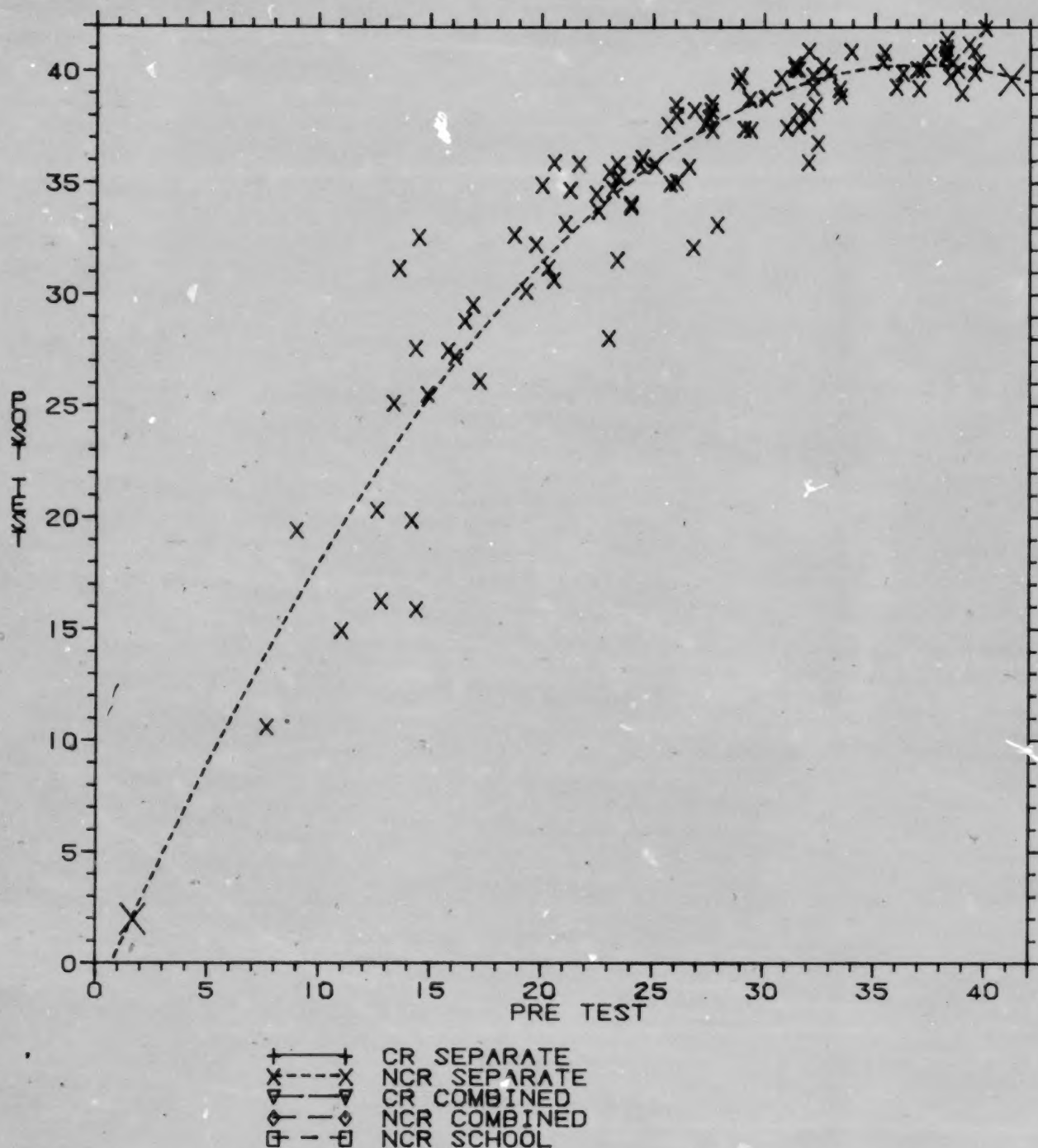
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT STORIES



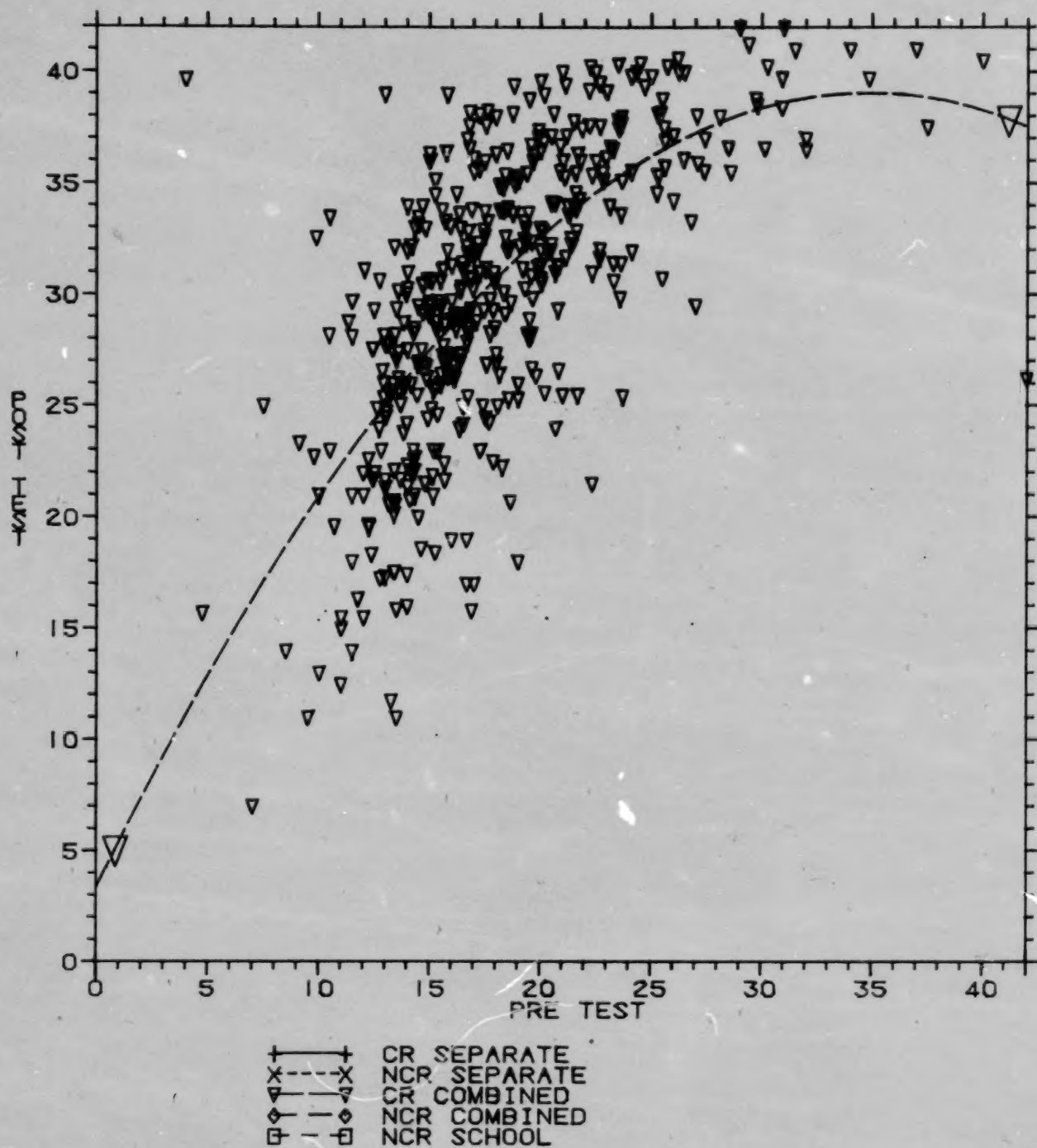
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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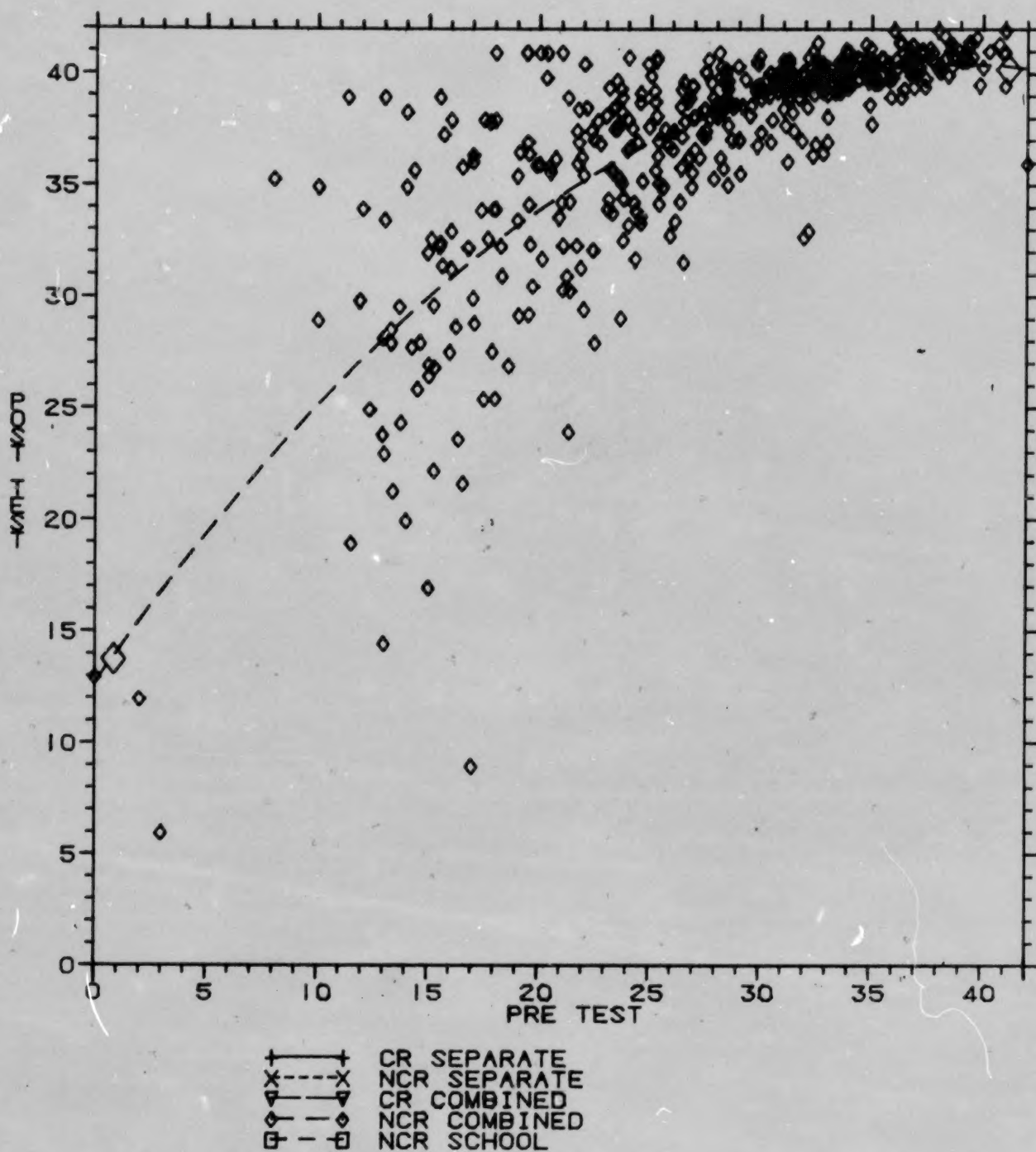
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST IS MAT READING



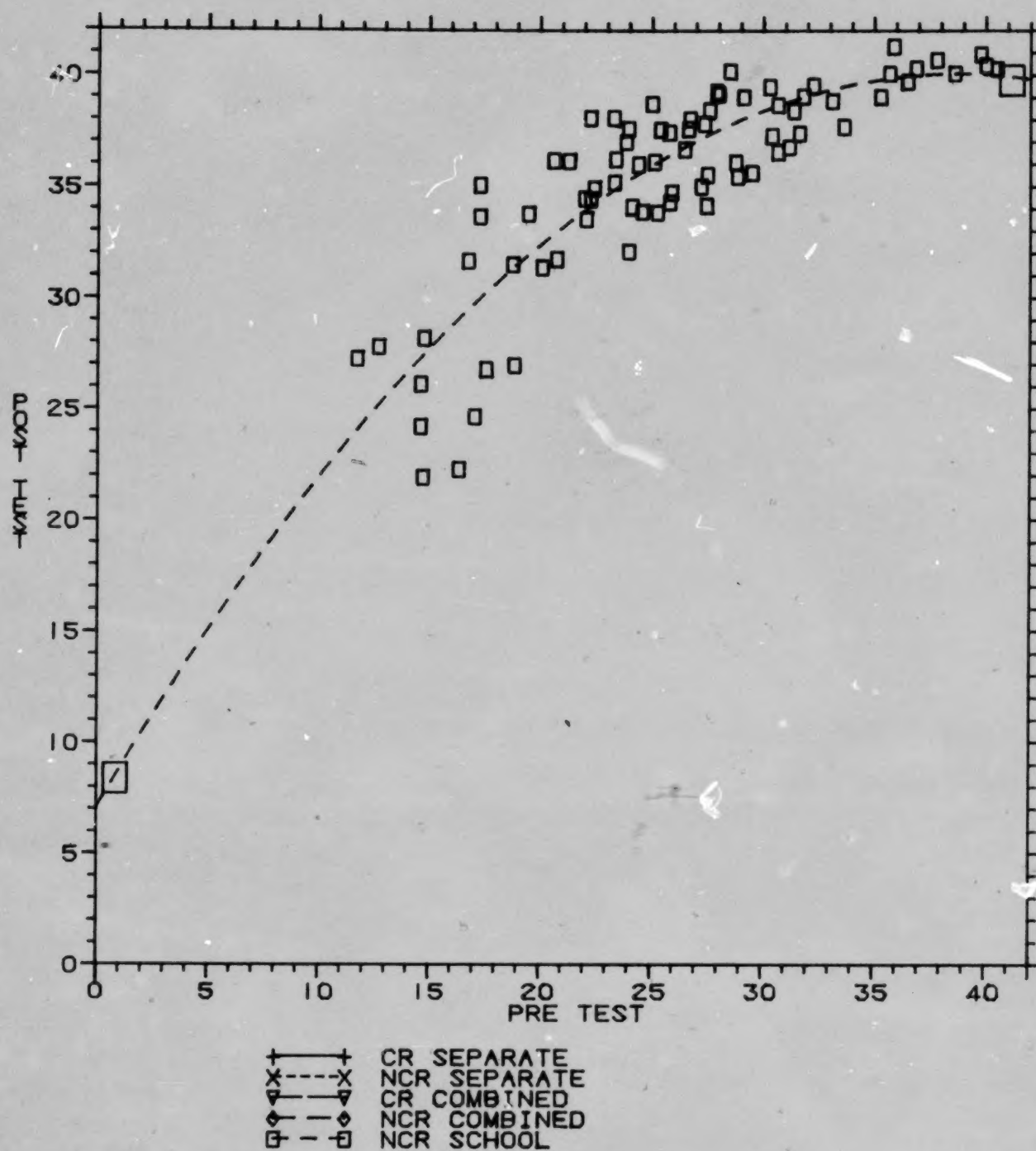
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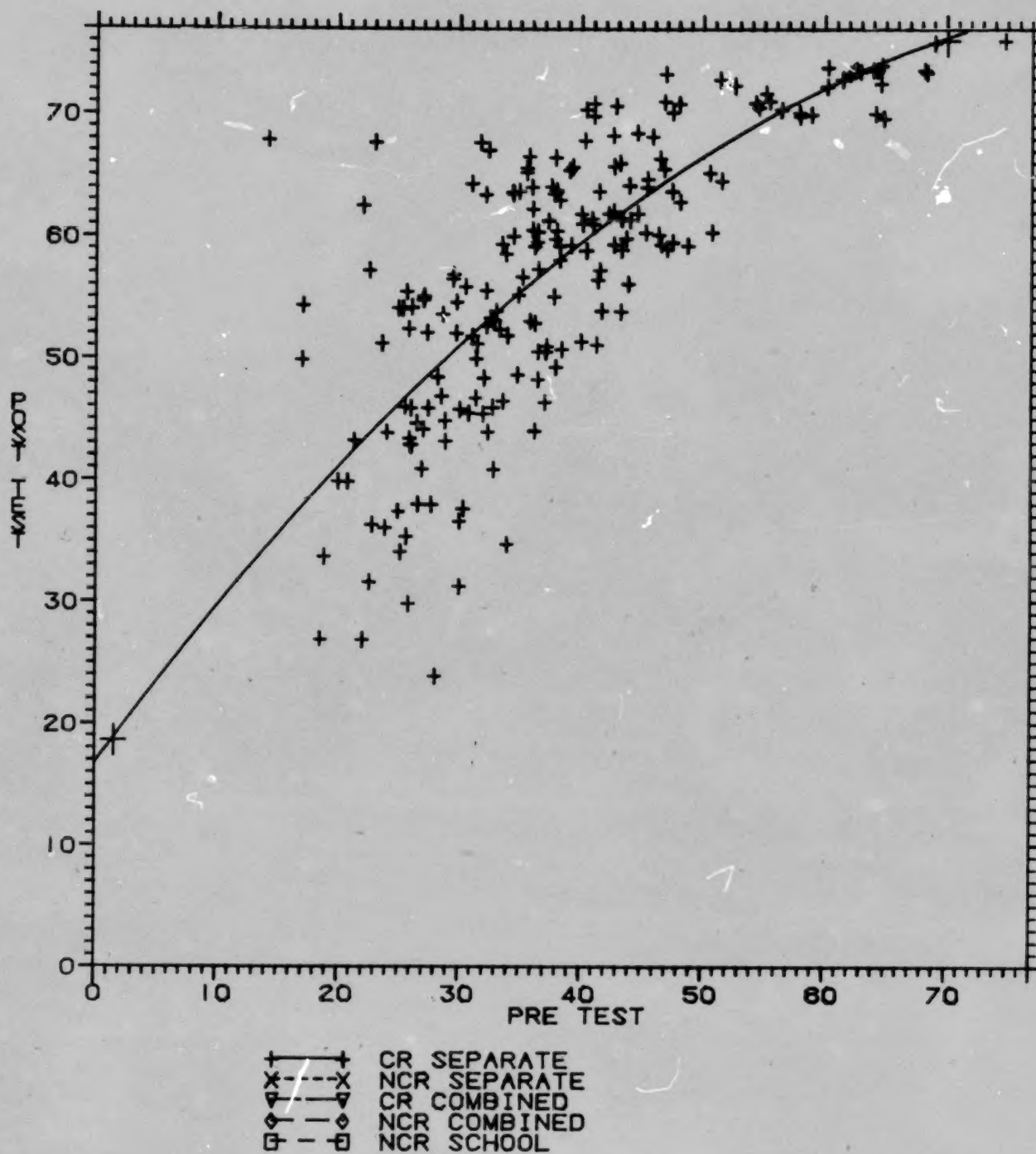
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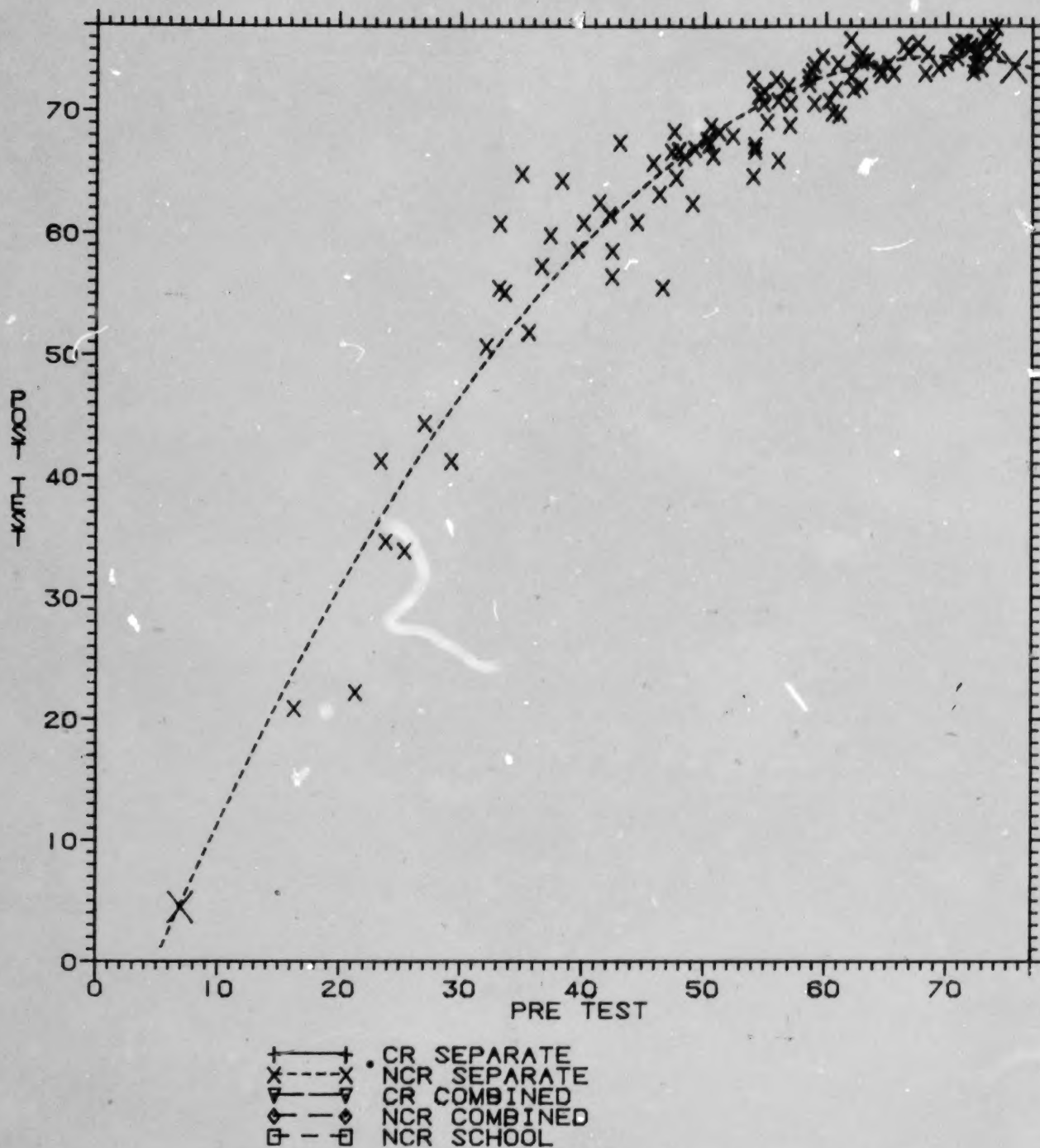
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 GRADE 2, TEST IS MAT READING



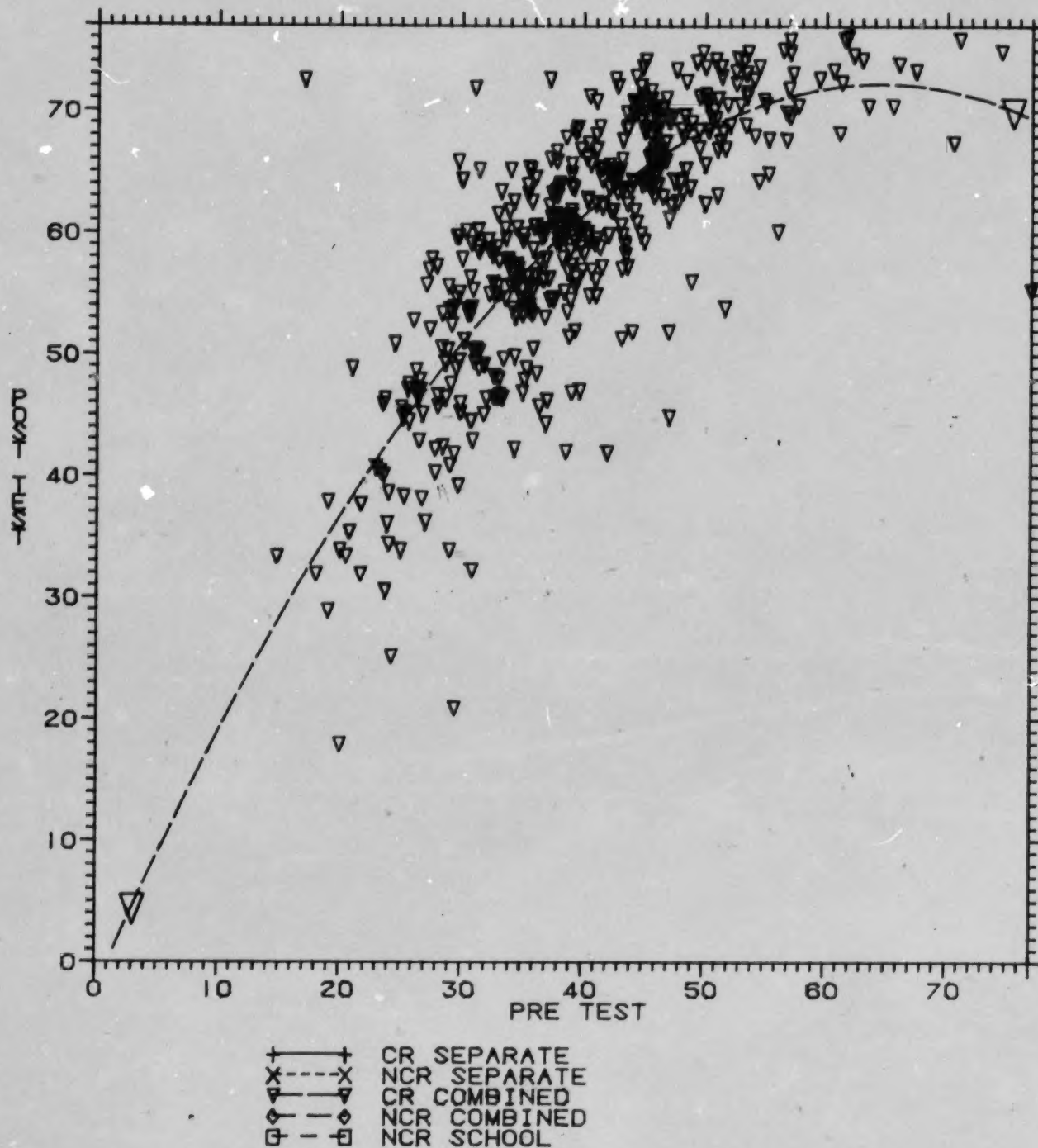
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST IS MAT TOTAL



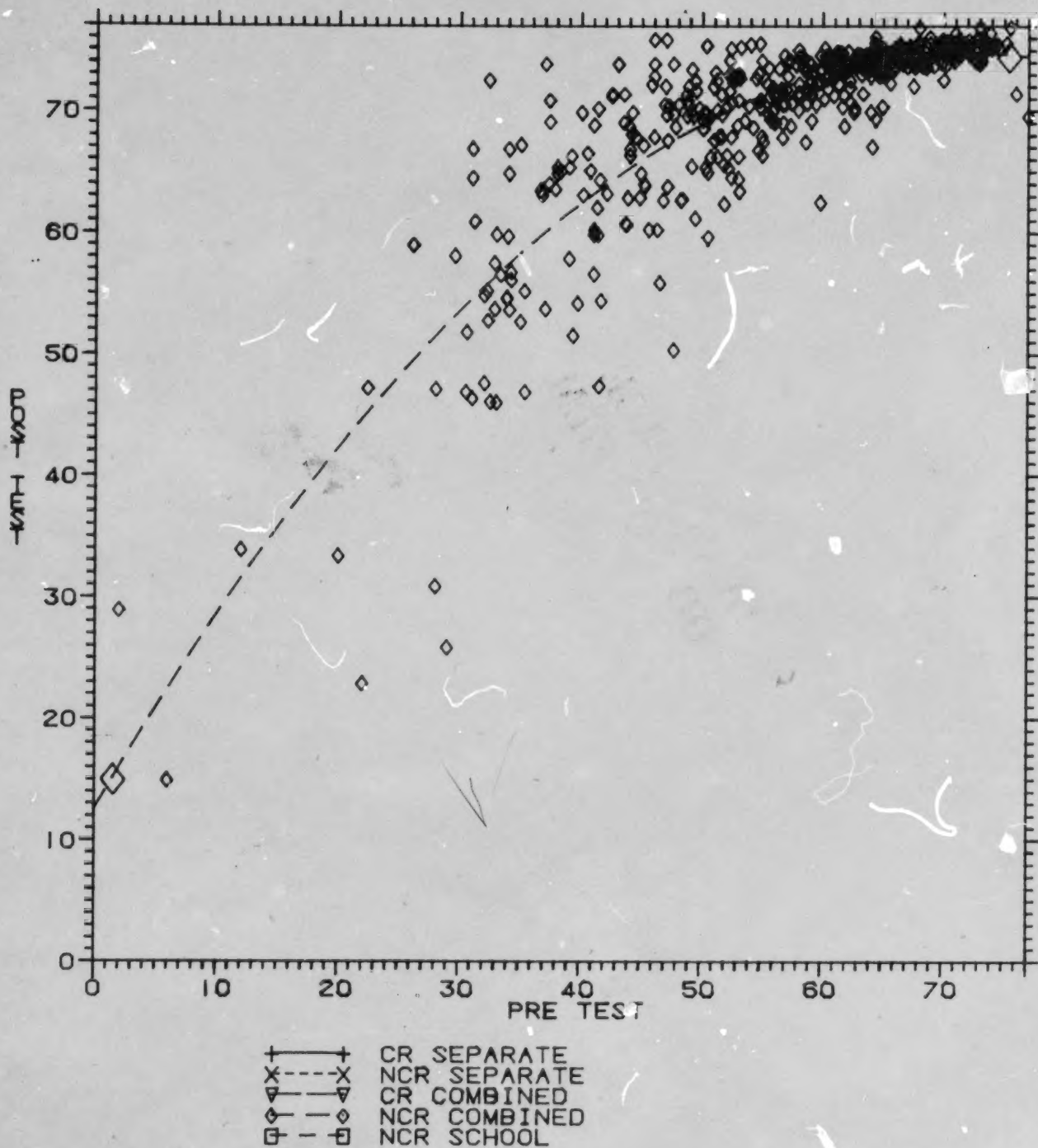
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST IS MAT TOTAL



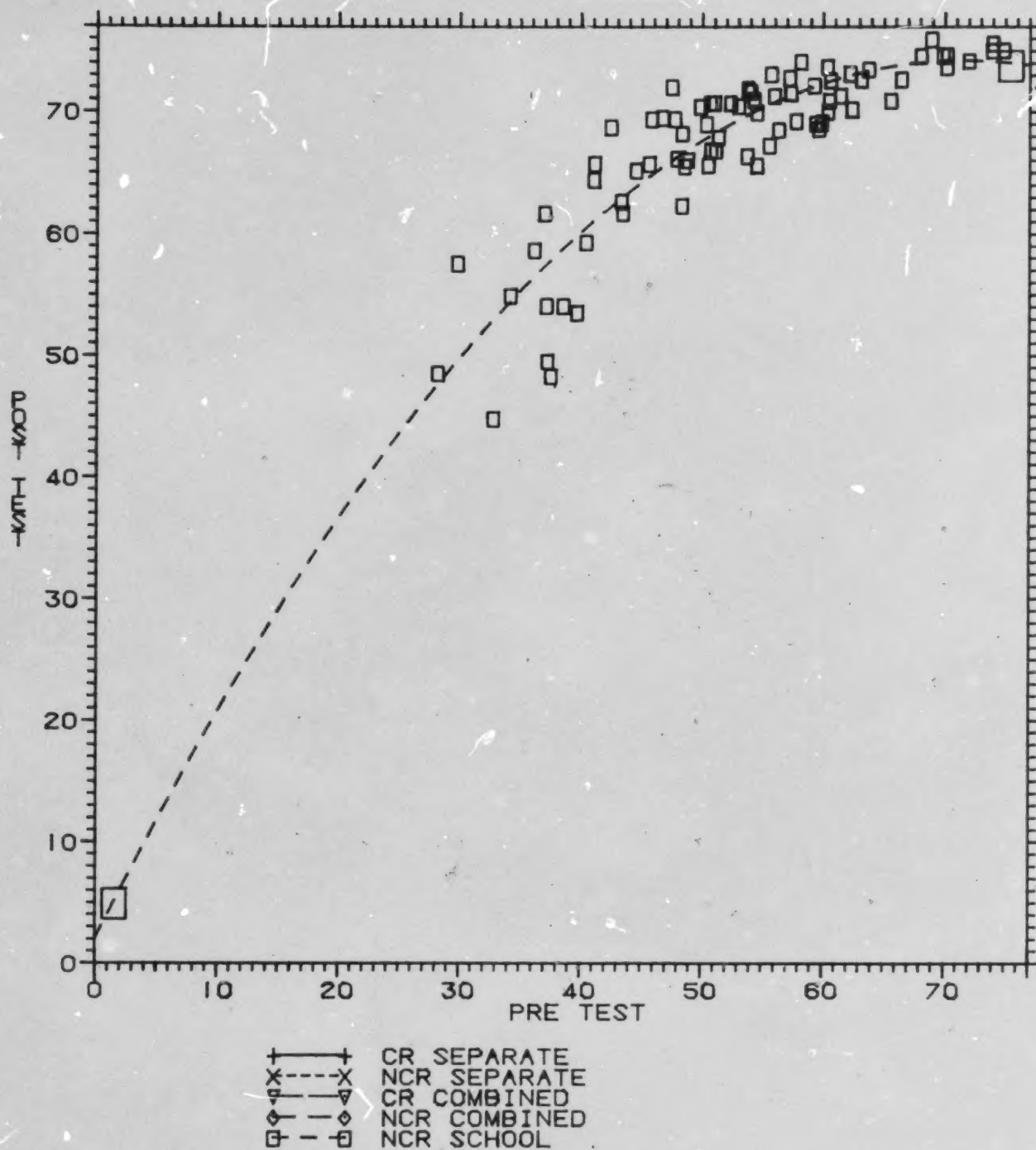
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST IS MAT TOTAL



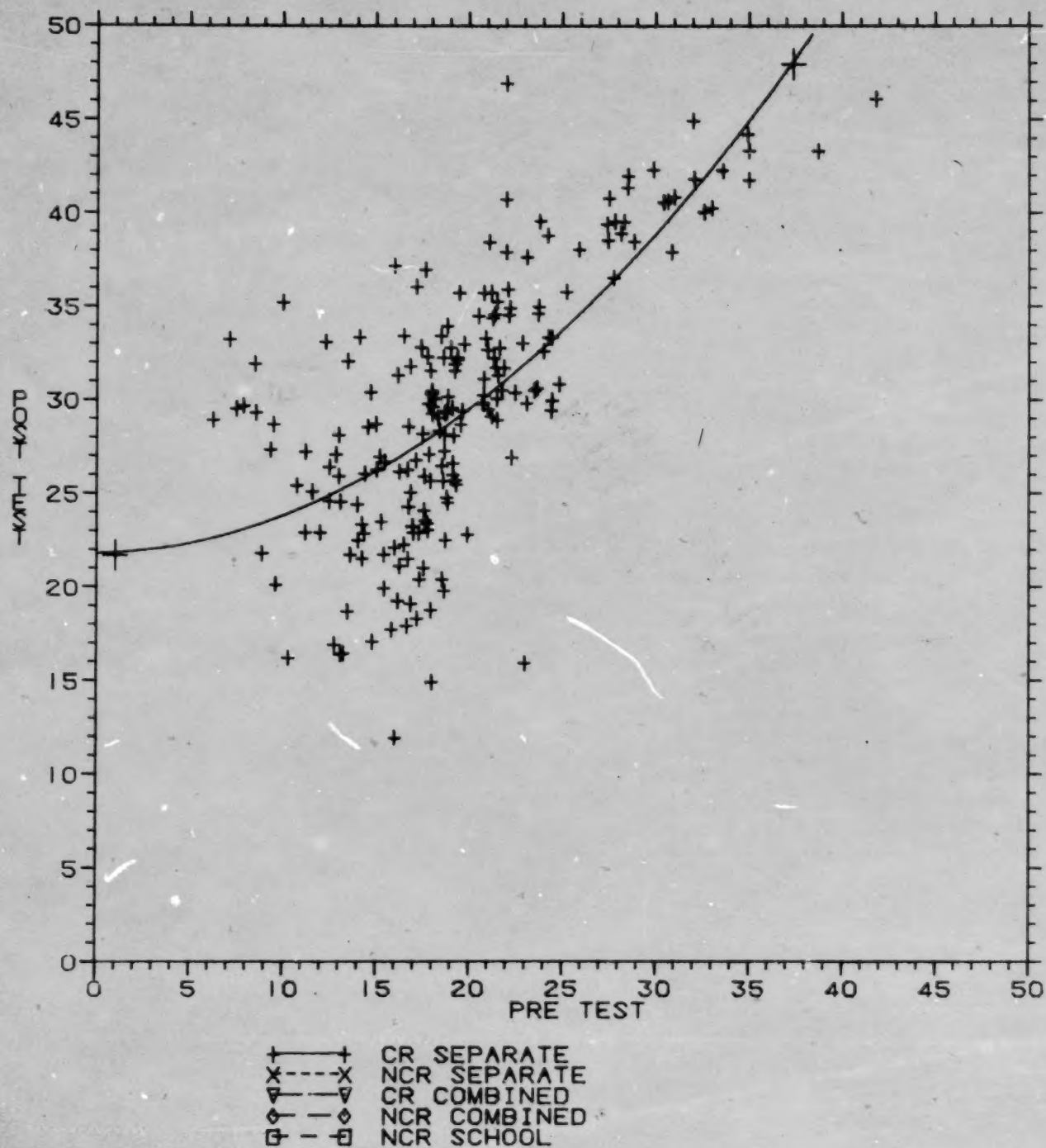
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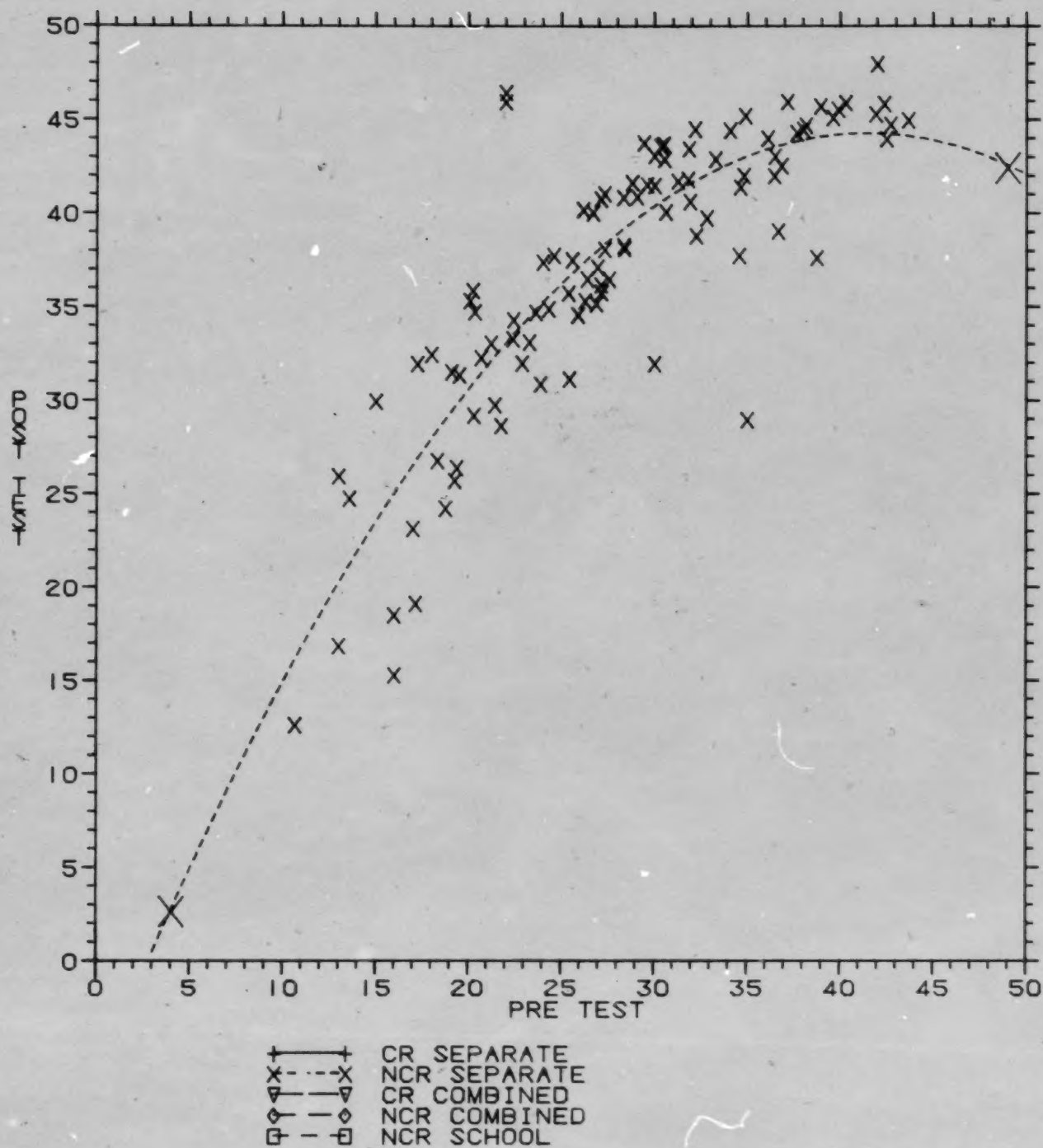
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST 15 MAT TOTAL



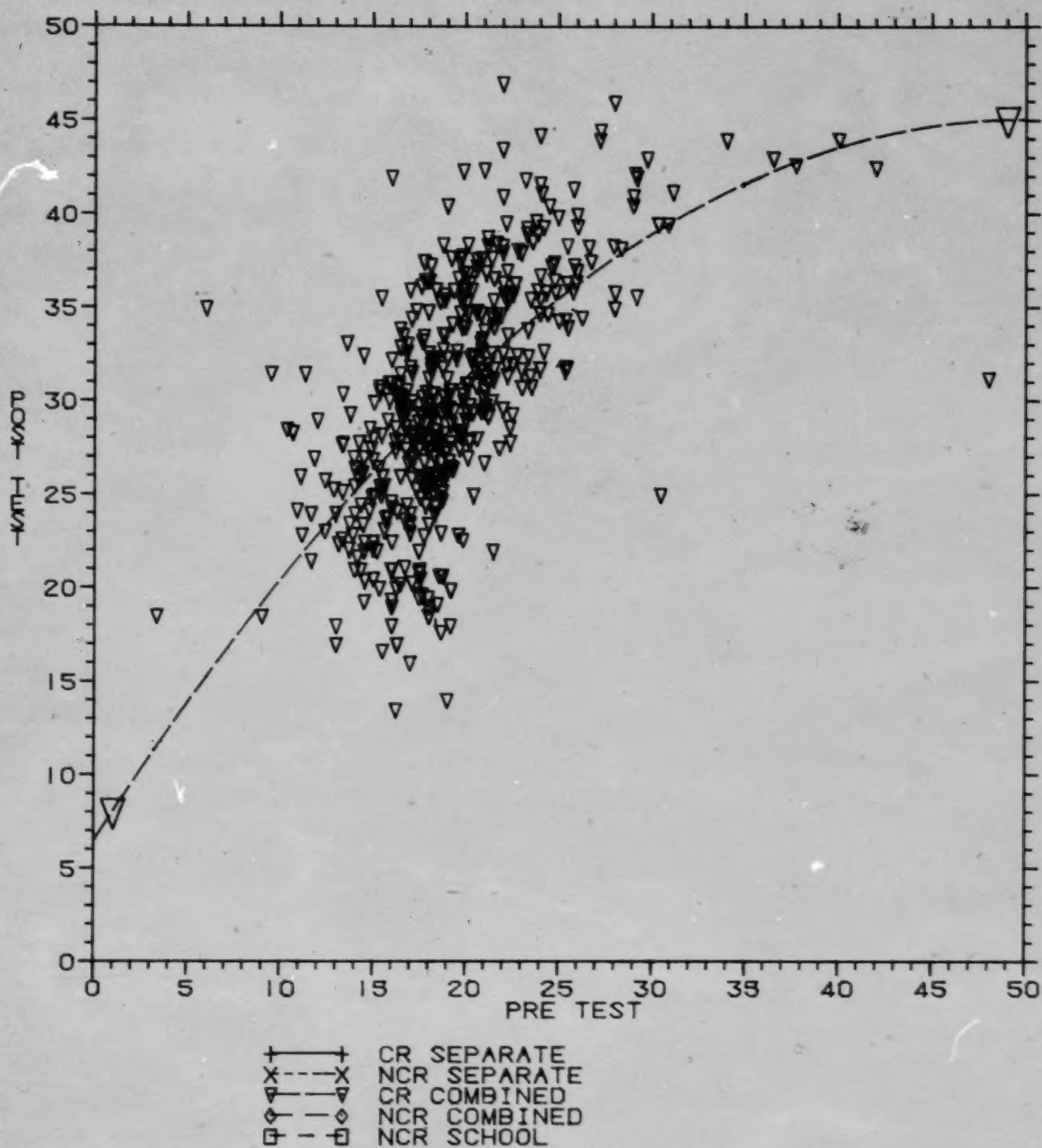
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2. TEST IS COOP



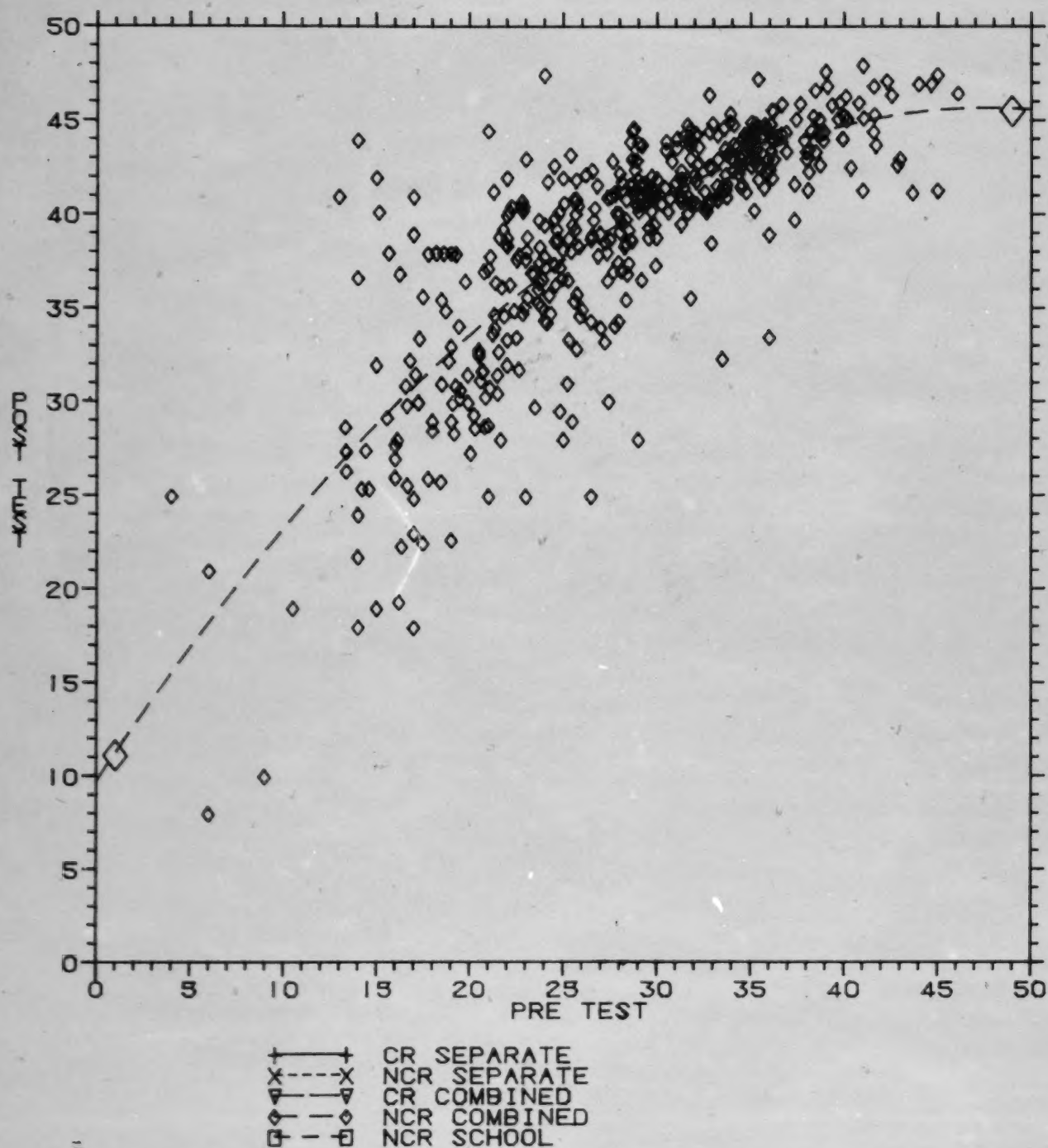
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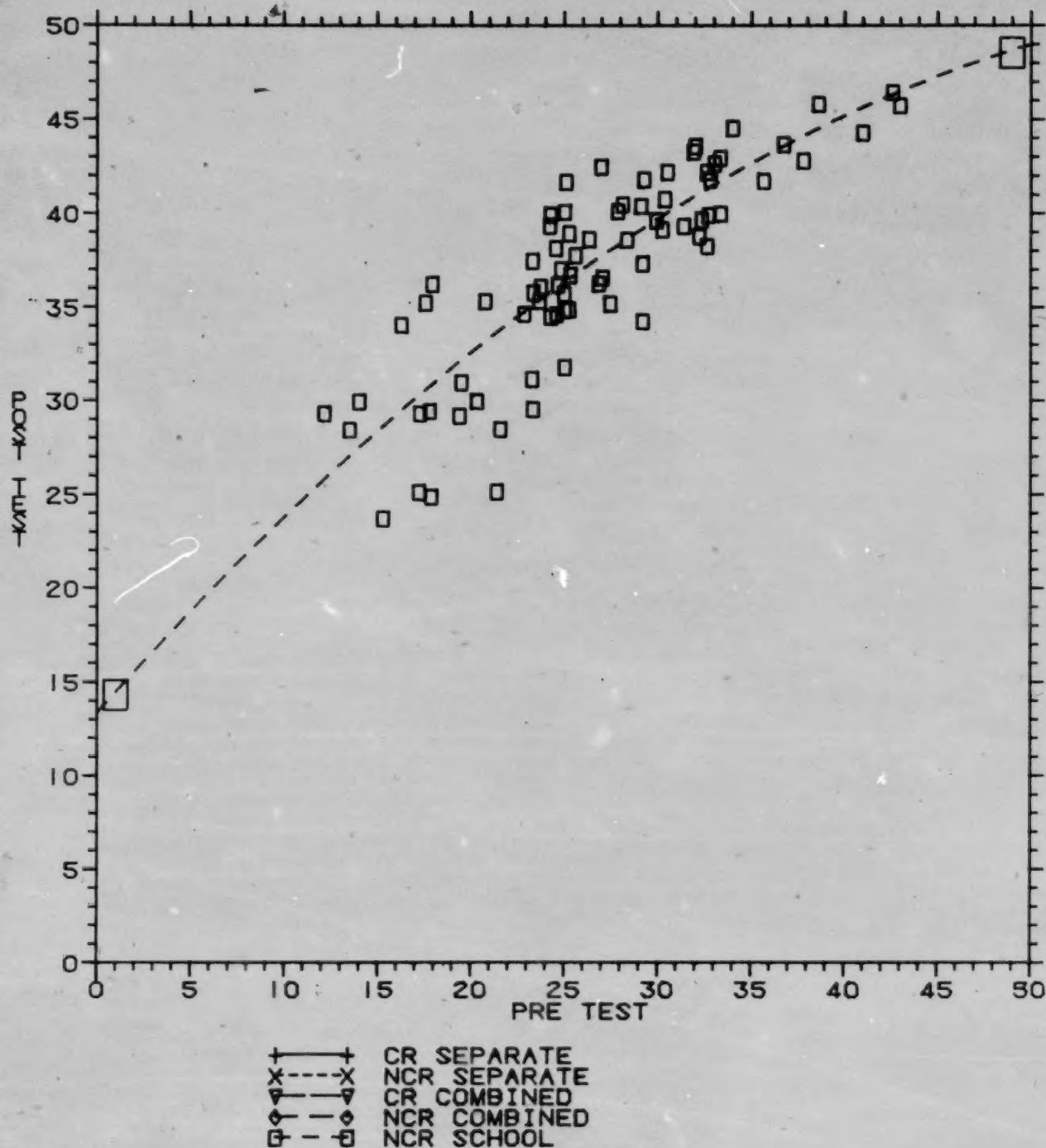
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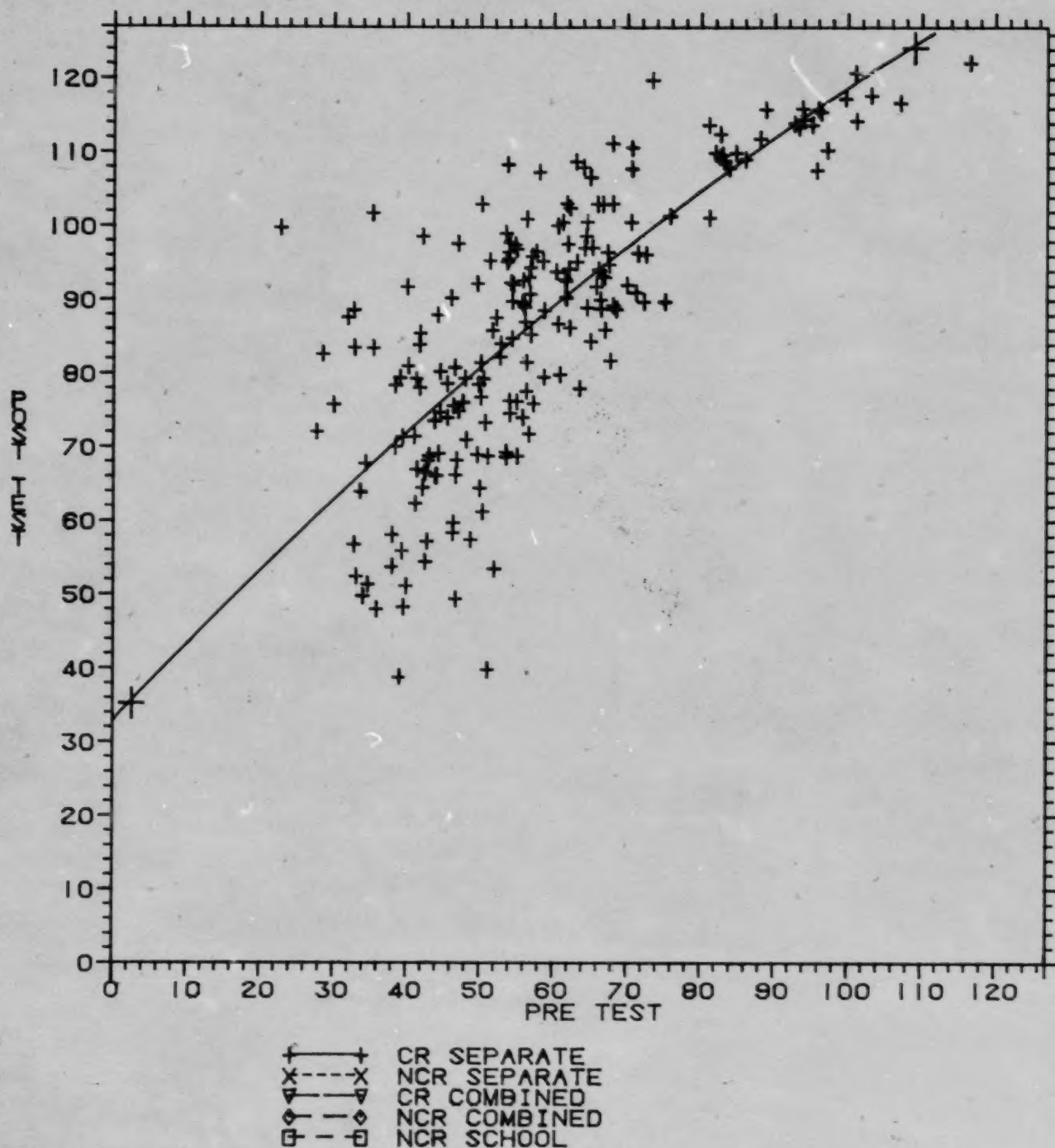
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST IS COOP



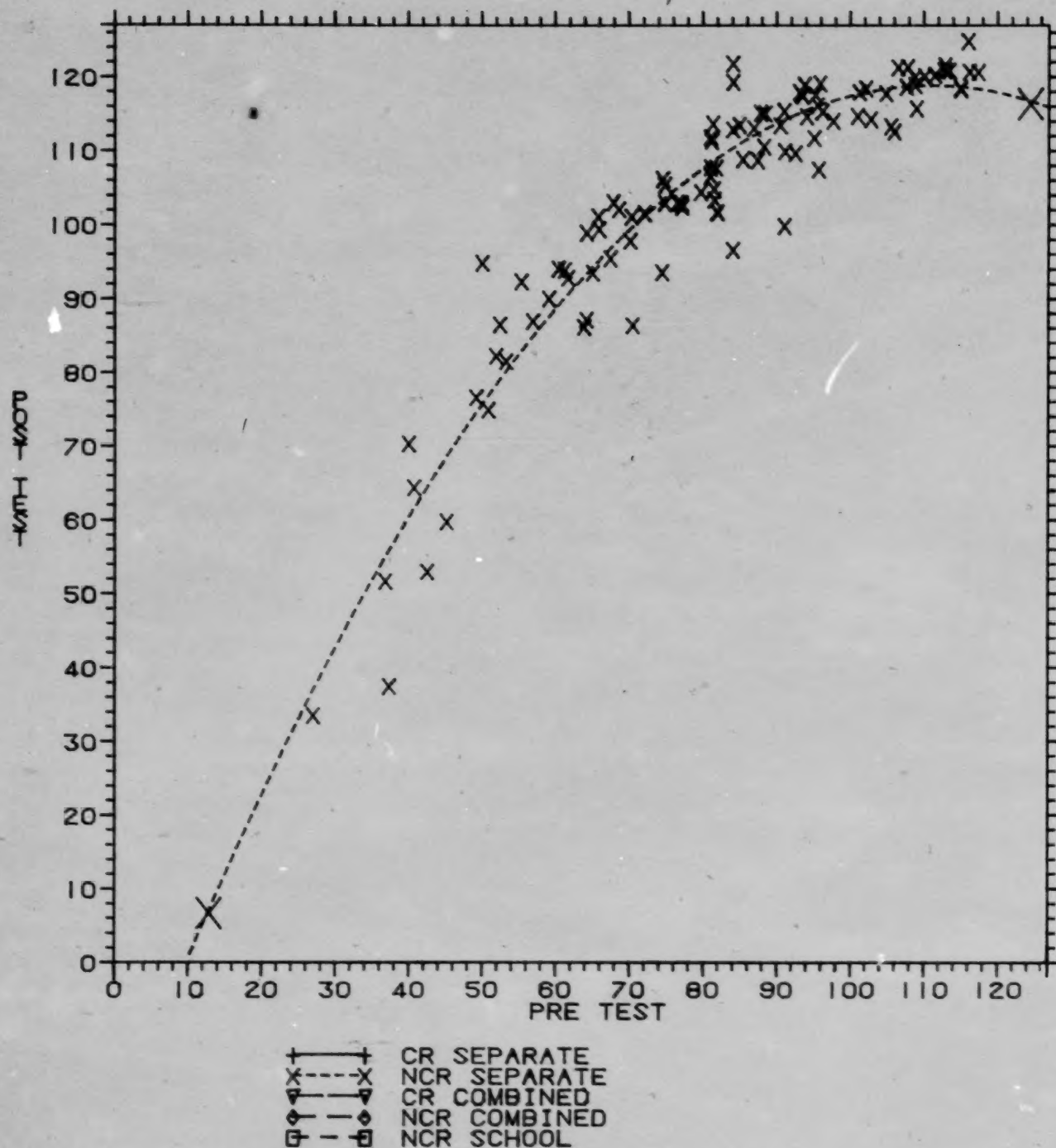
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 GRADE 2, TEST IS COOP



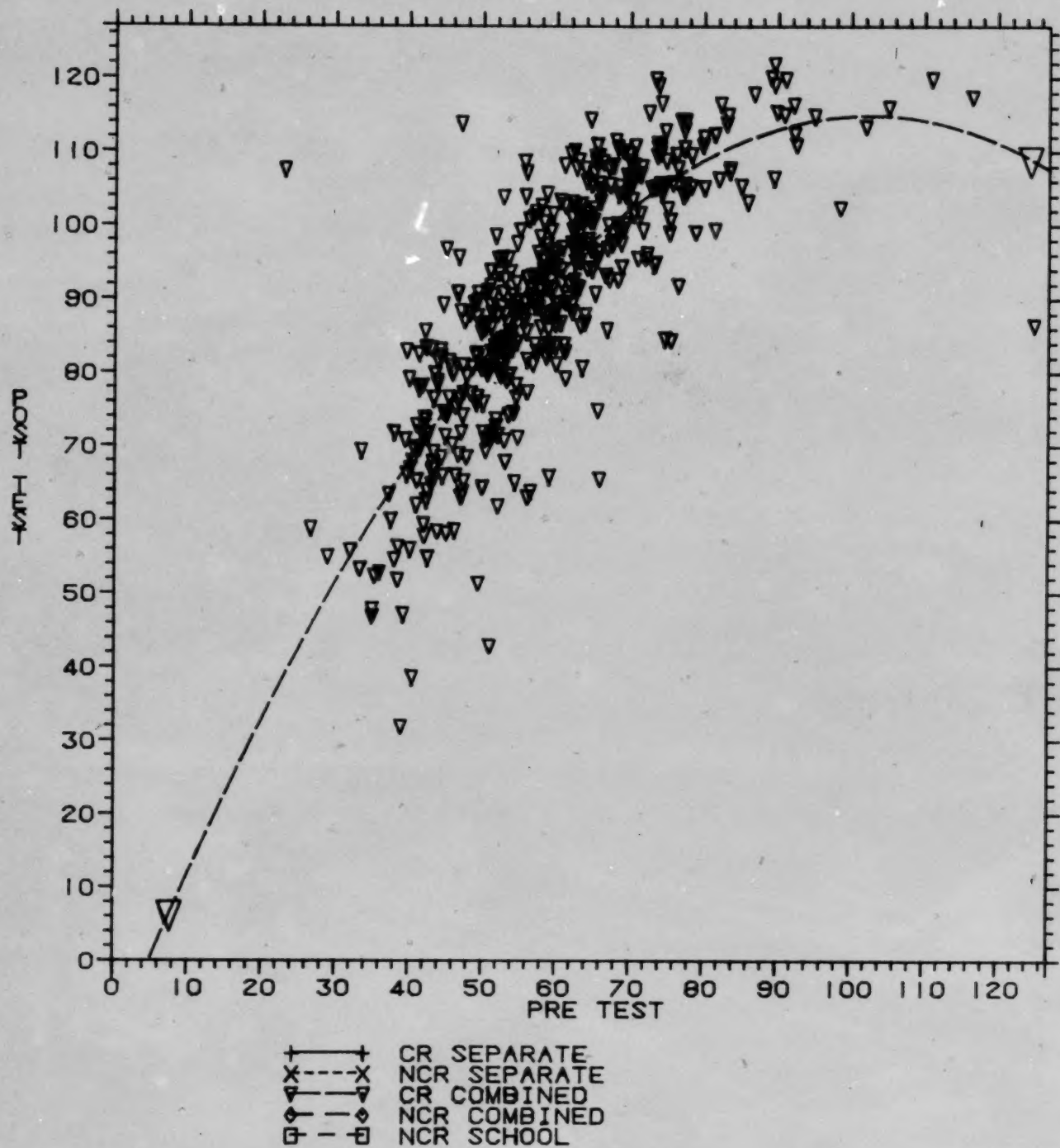
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 GRADE 2, TEST IS TOTAL



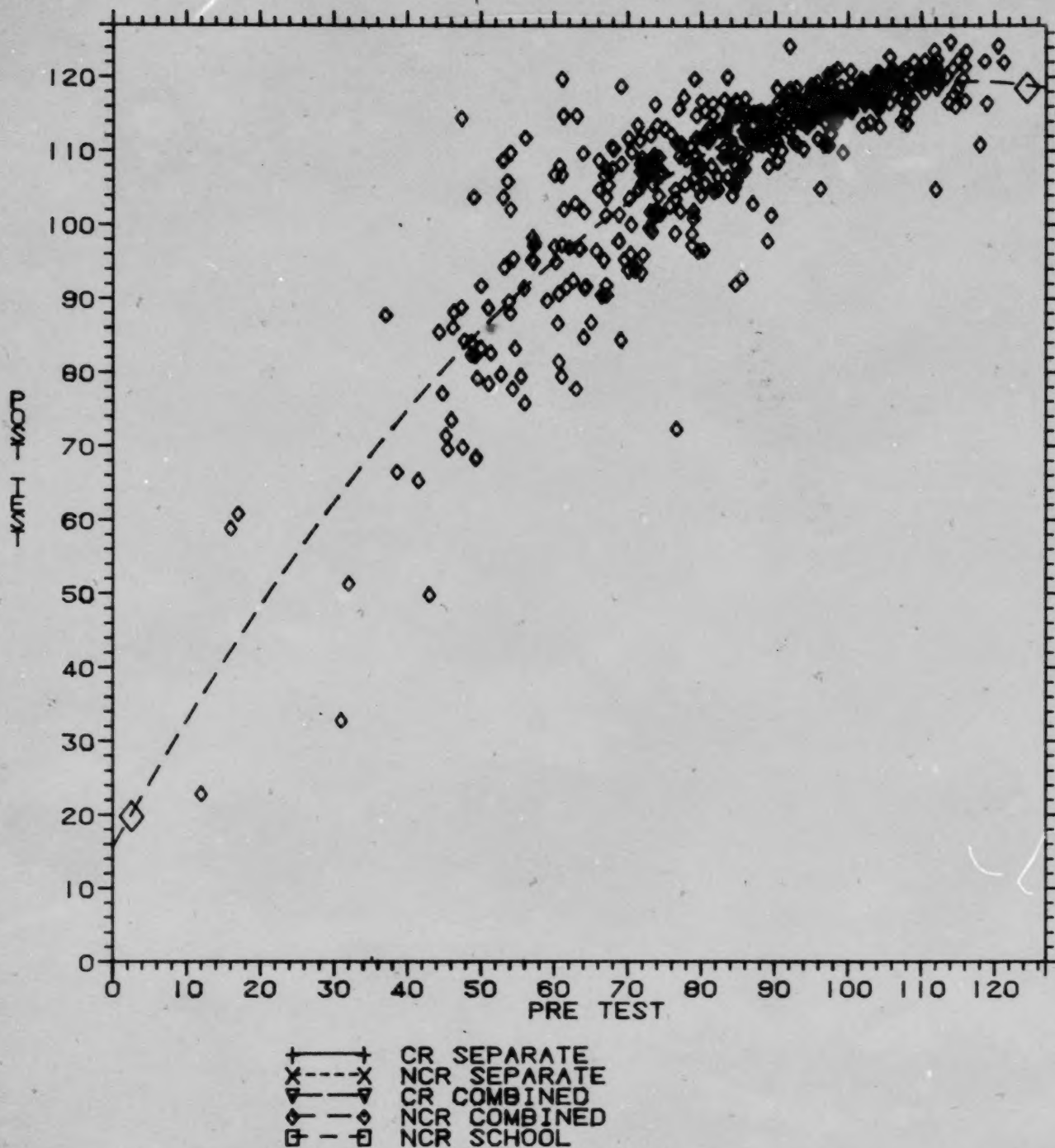
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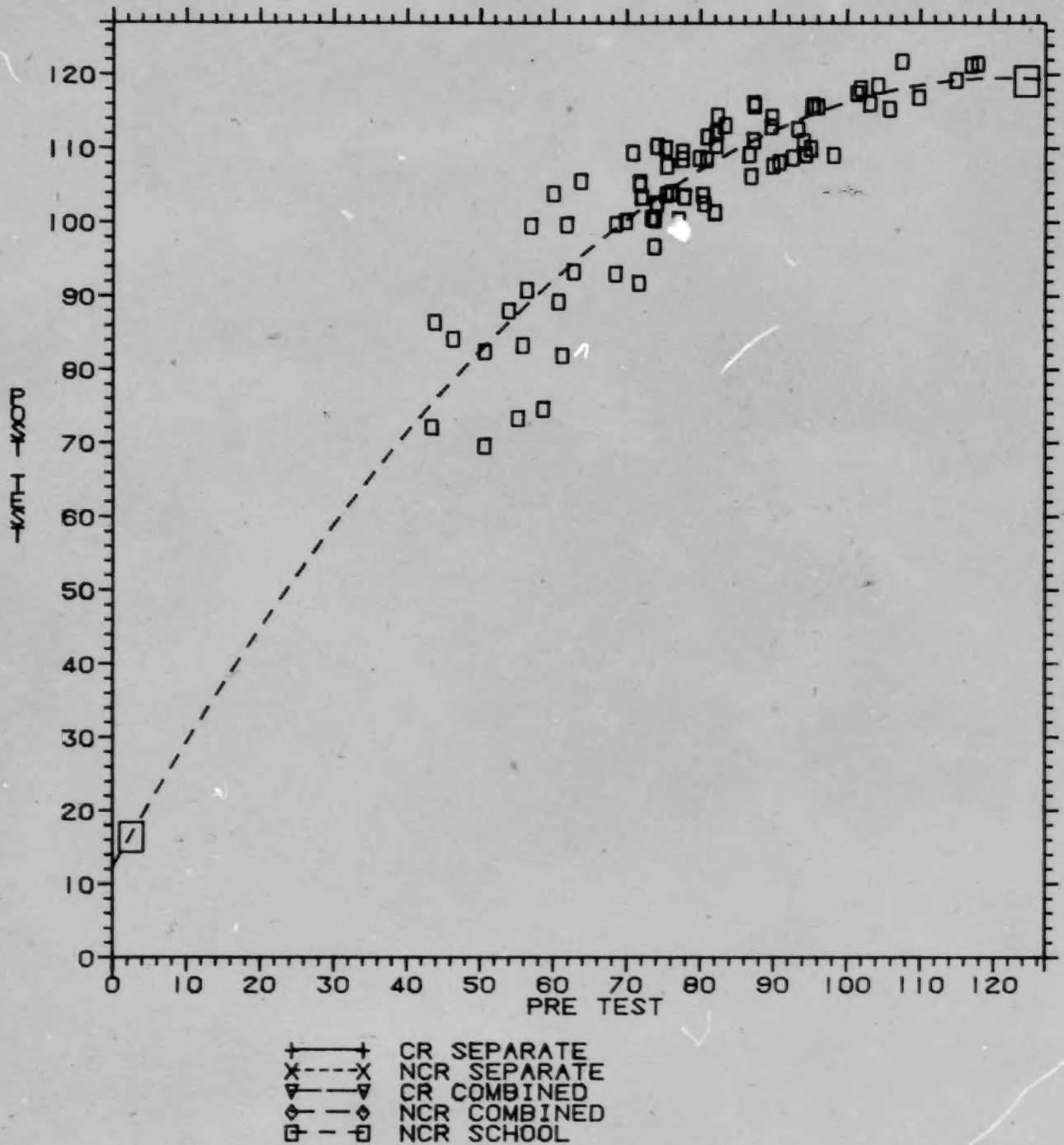
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 GRADE 2, TEST IS TOTAL



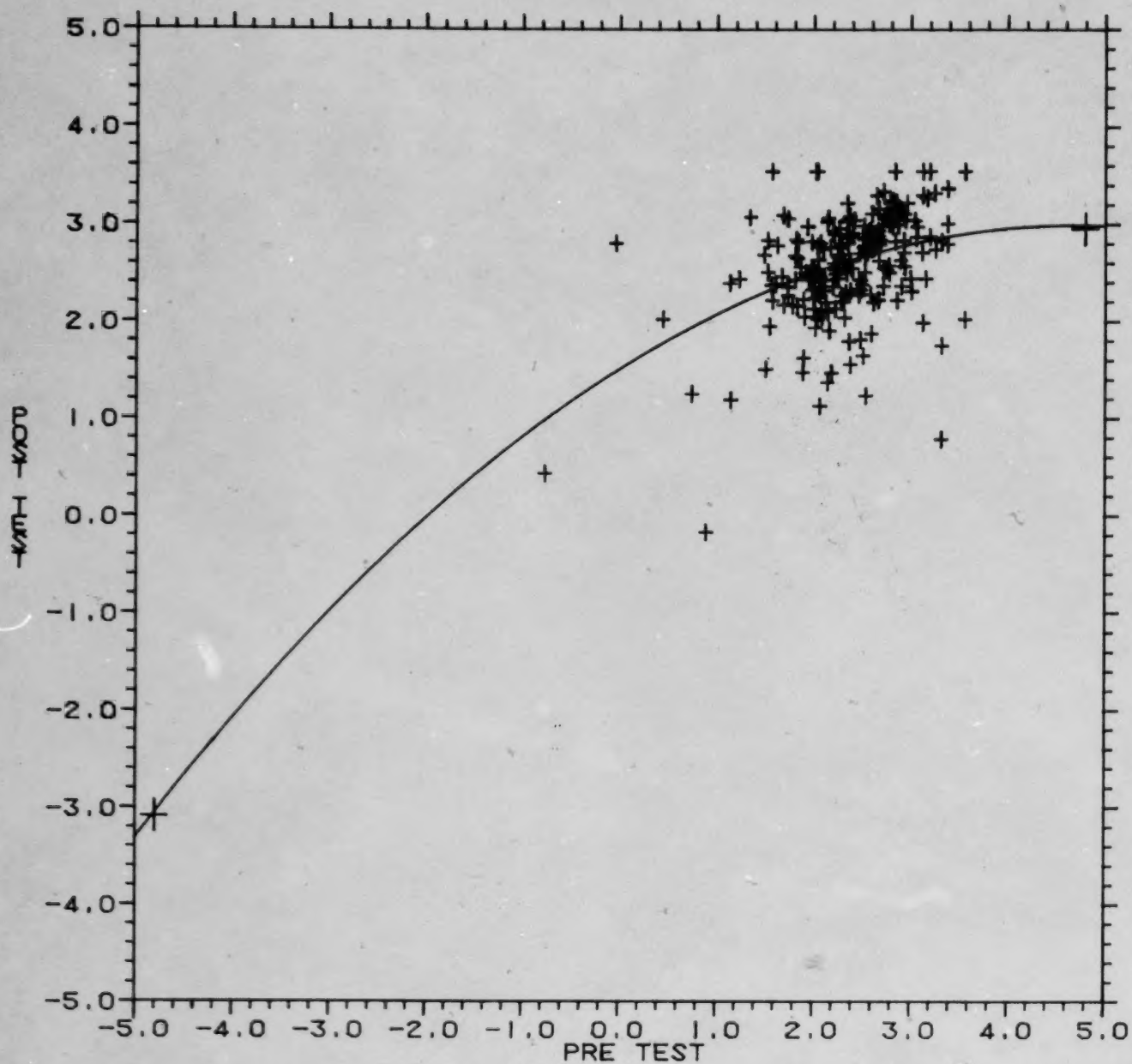
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COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS TOTAL

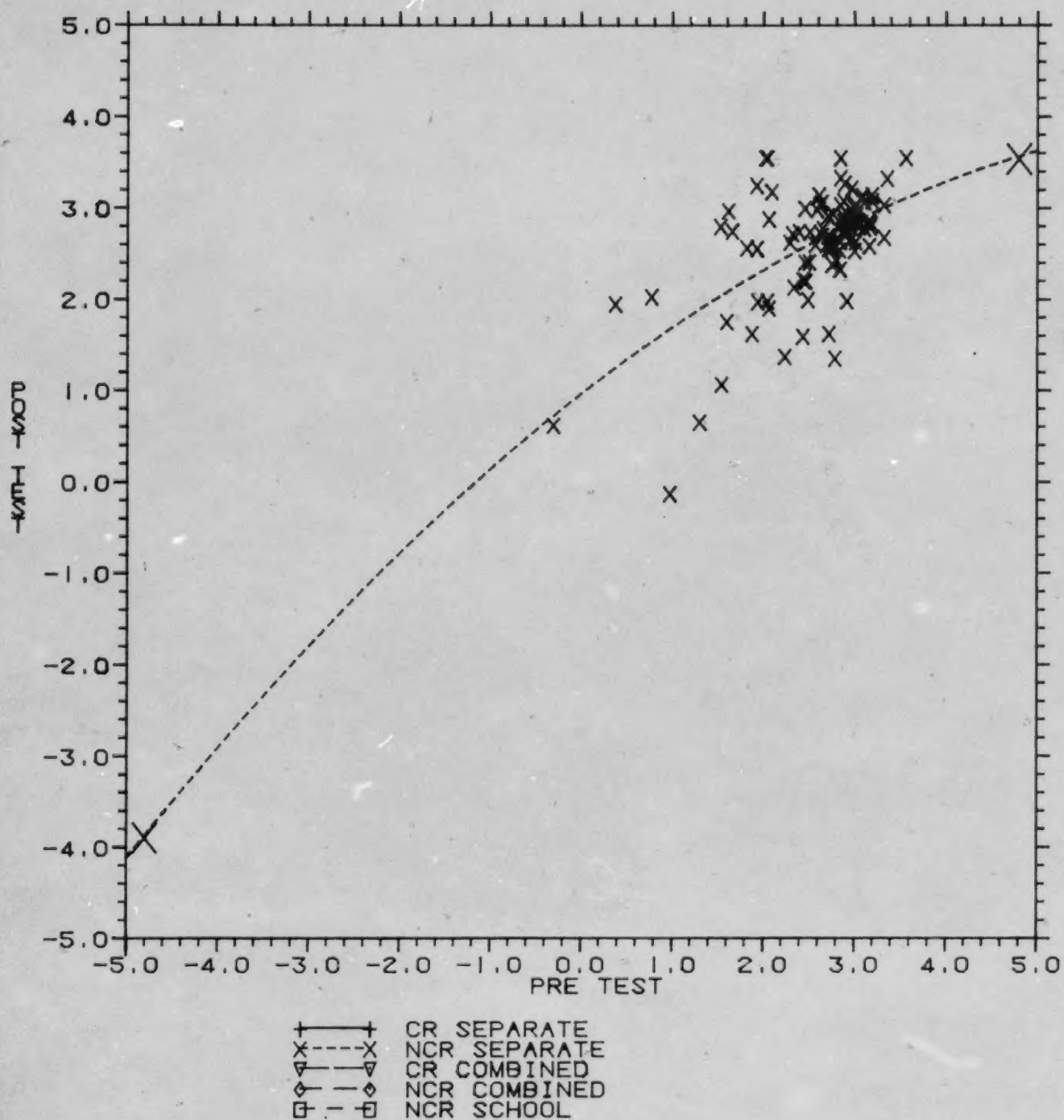


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST IS ATTITUDE

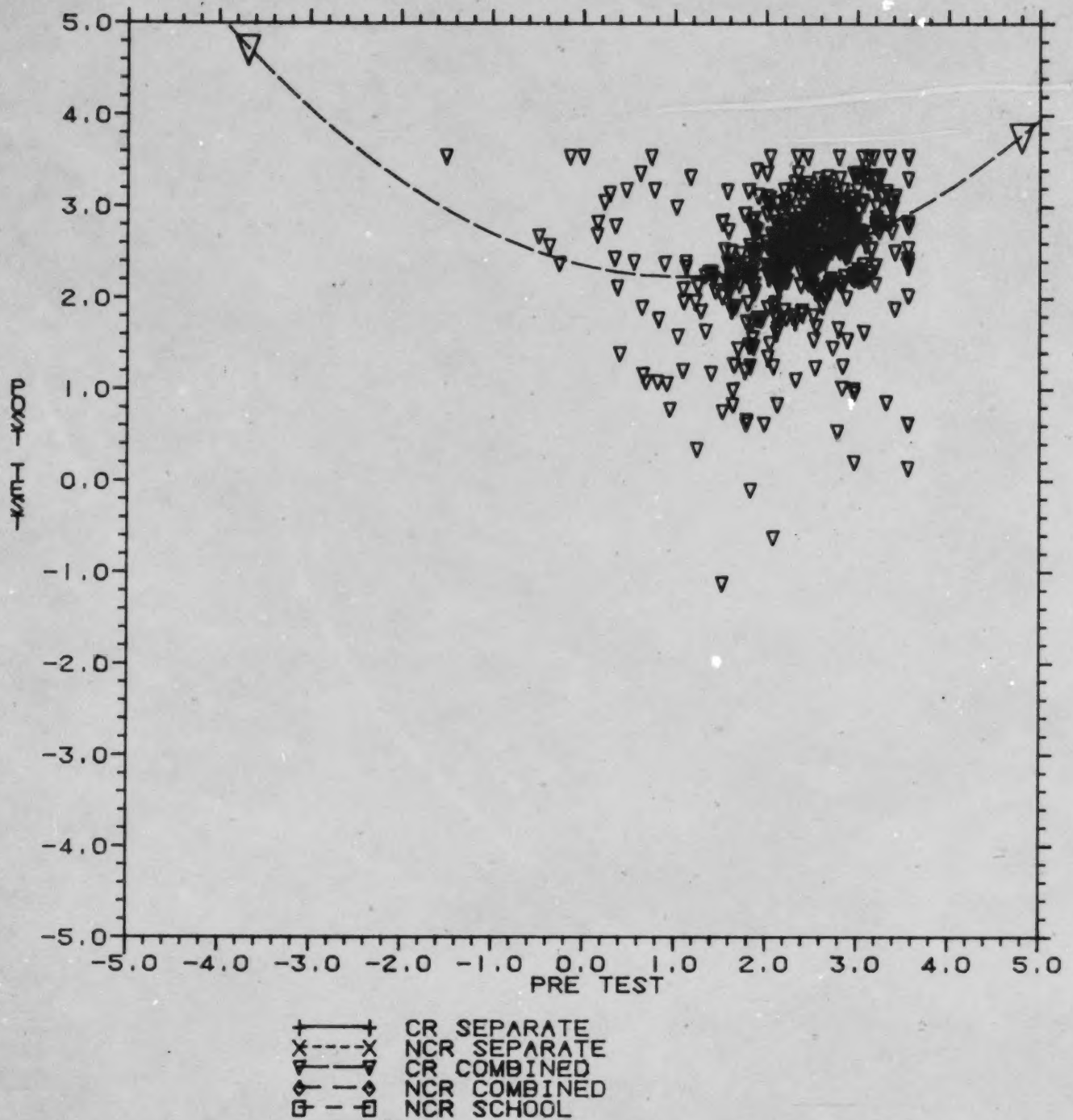


+ — + CR SEPARATE
 x — x NCR SEPARATE
 ▽ — ▽ CR COMBINED
 ◇ — ◇ NCR COMBINED
 □ — □ NCR SCHOOL

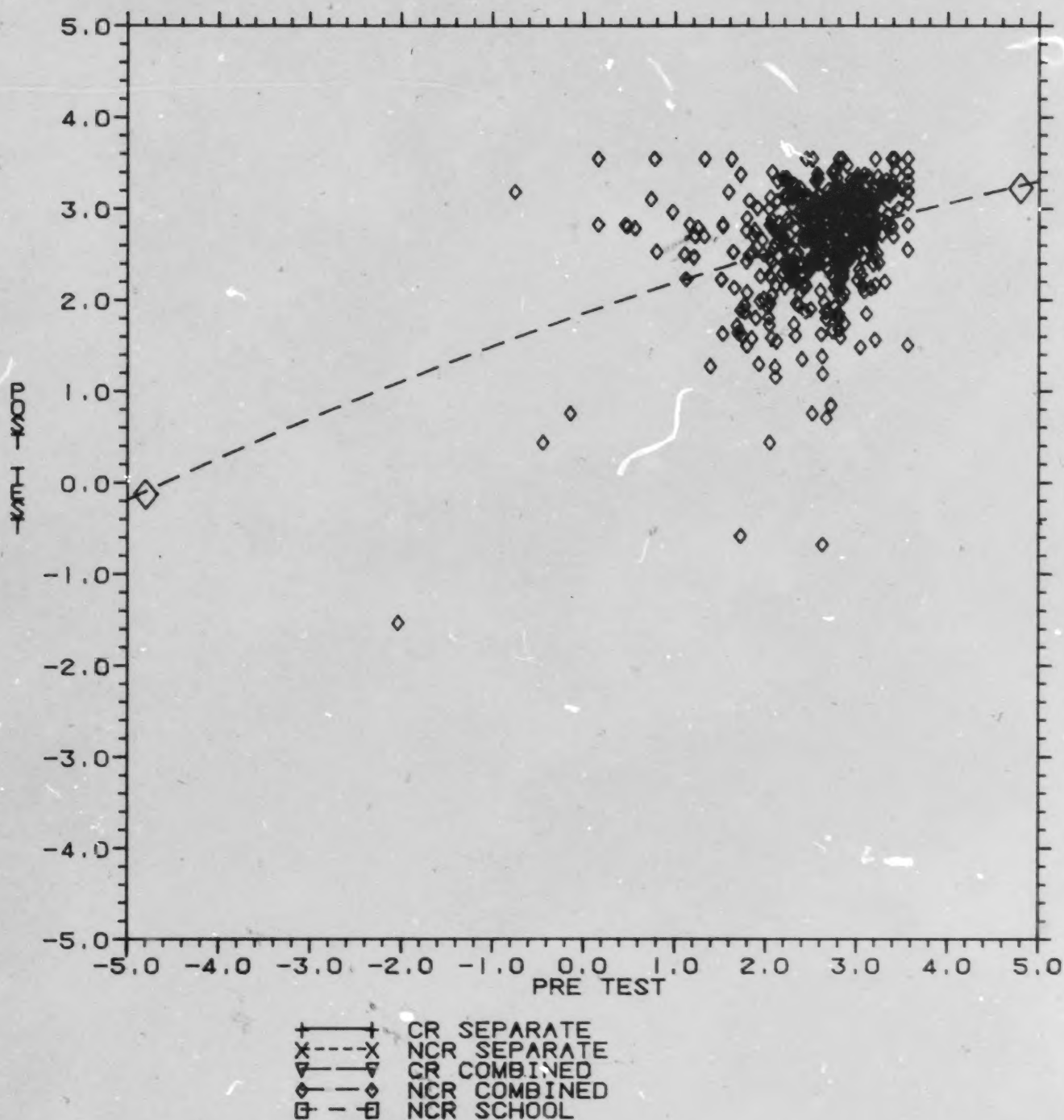
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 GRADE 2, TEST IS ATTITUDE



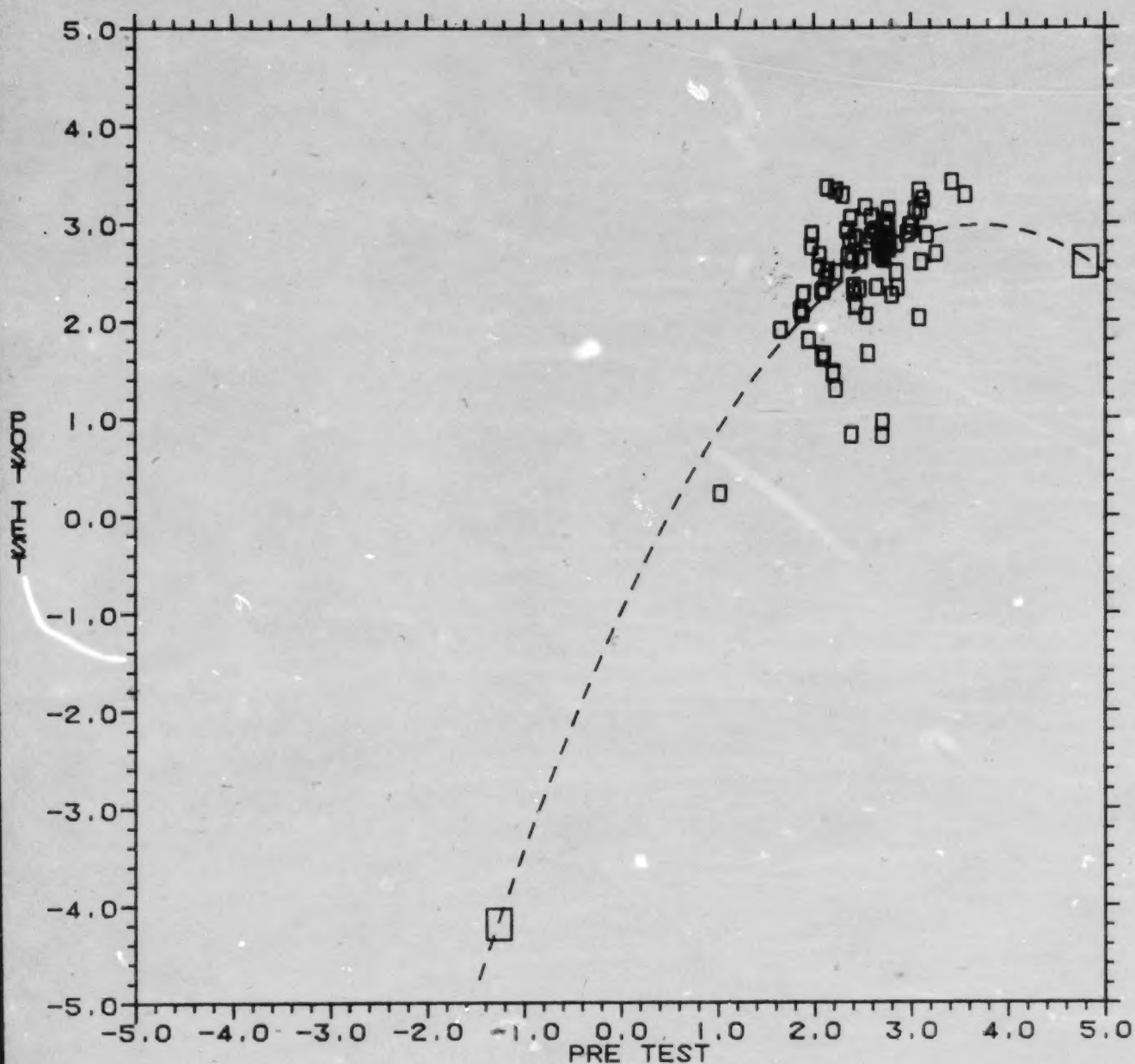
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 GRADE 2, TEST IS ATTITUDE



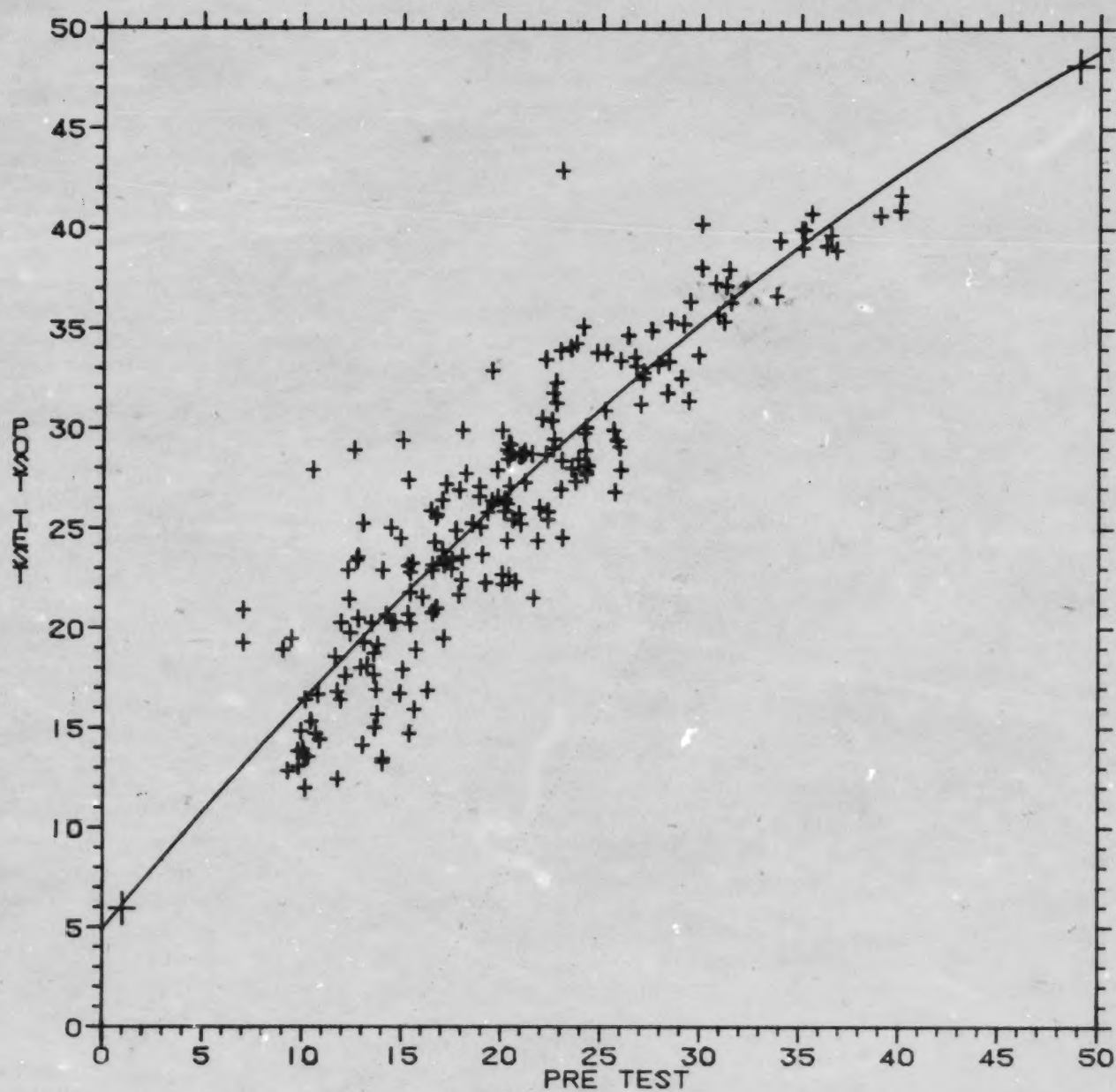
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 2, TEST IS ATTITUDE



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS ATTITUDE

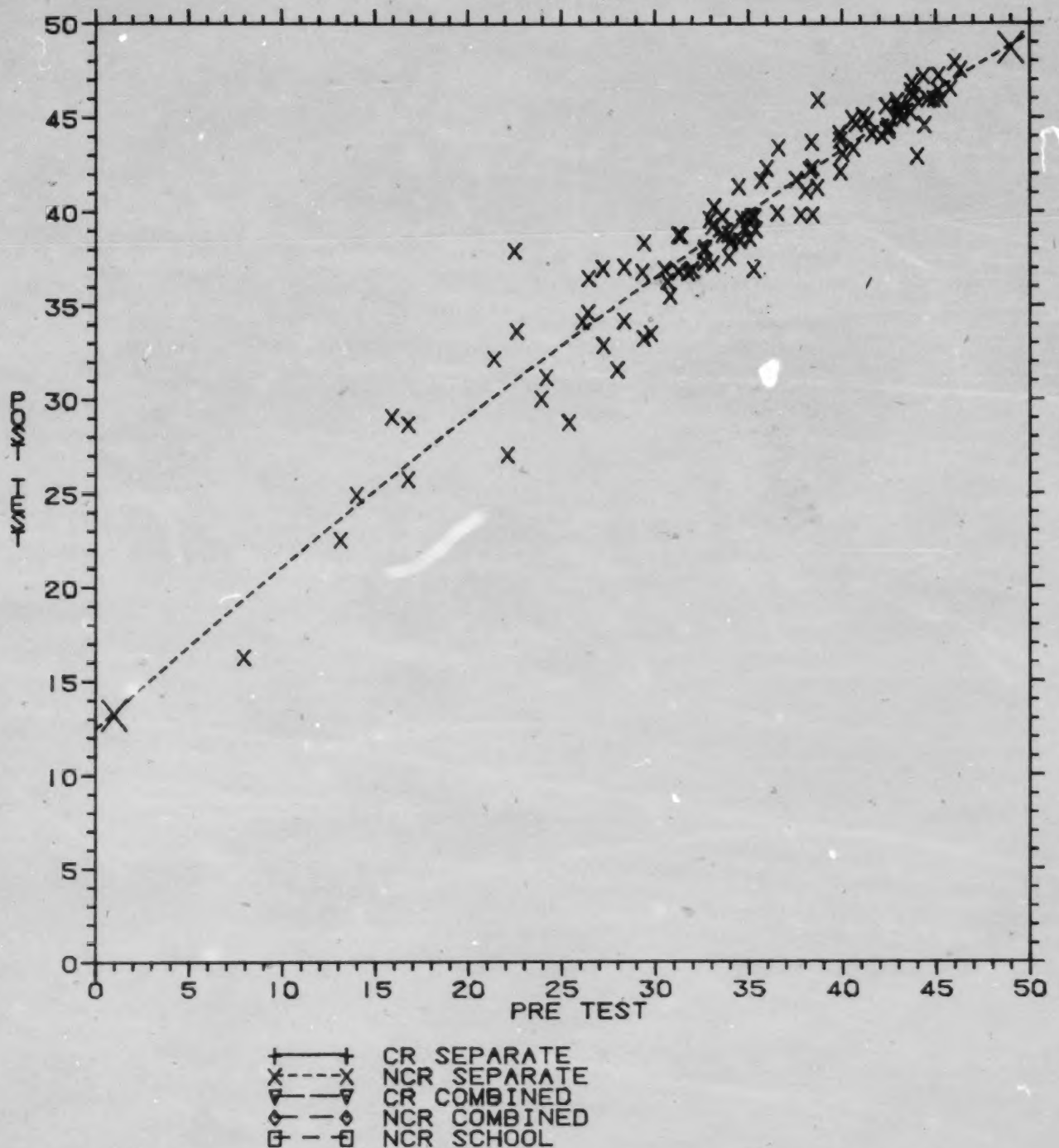


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 4. TEST IS MAT WORD KNOWLEDGE

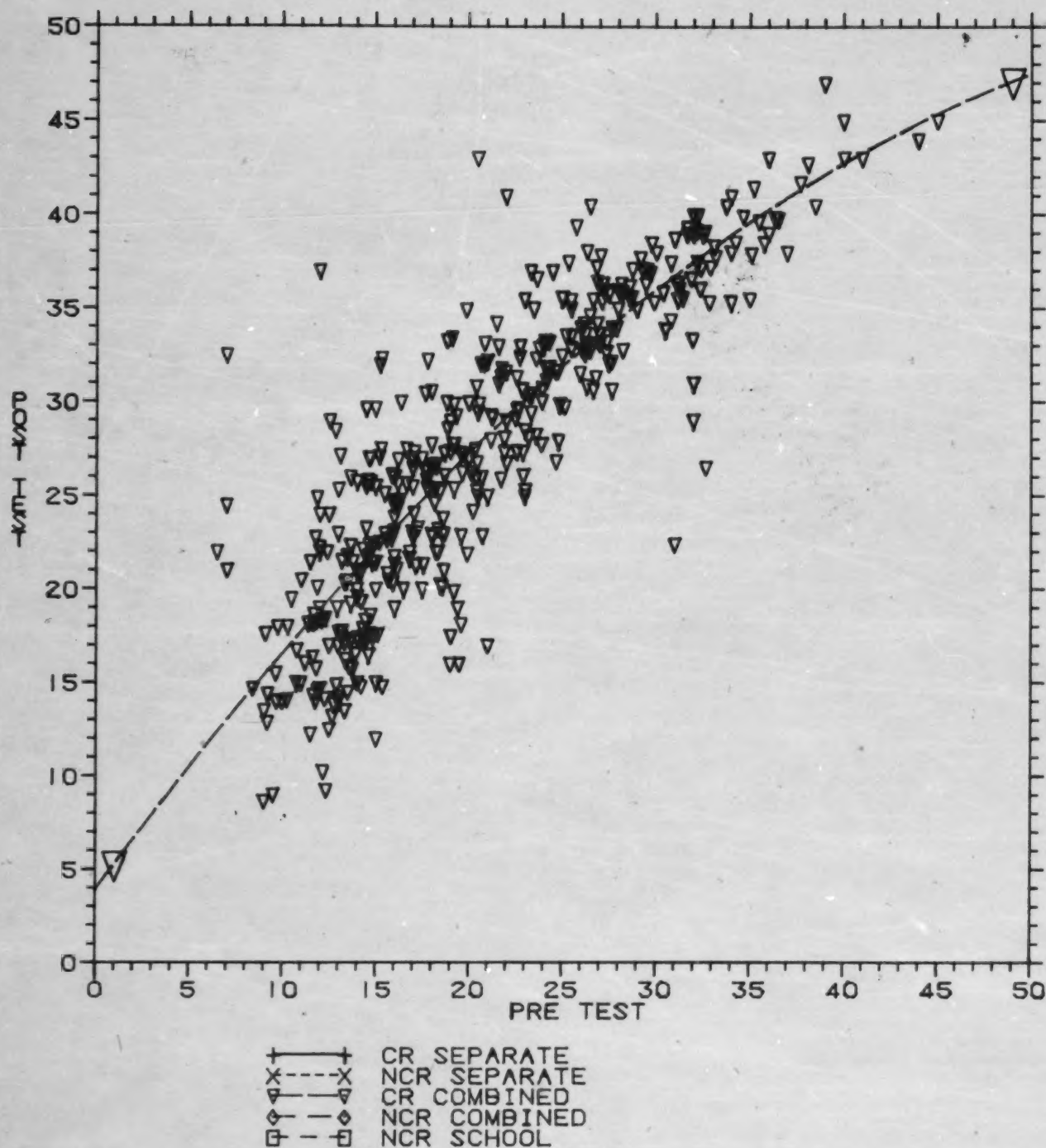


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 x - - x NCR SEPARATE
 v — v CR COMBINED
 ◇ — ◇ NCR COMBINED
 □ - - □ NCR SCHOOL

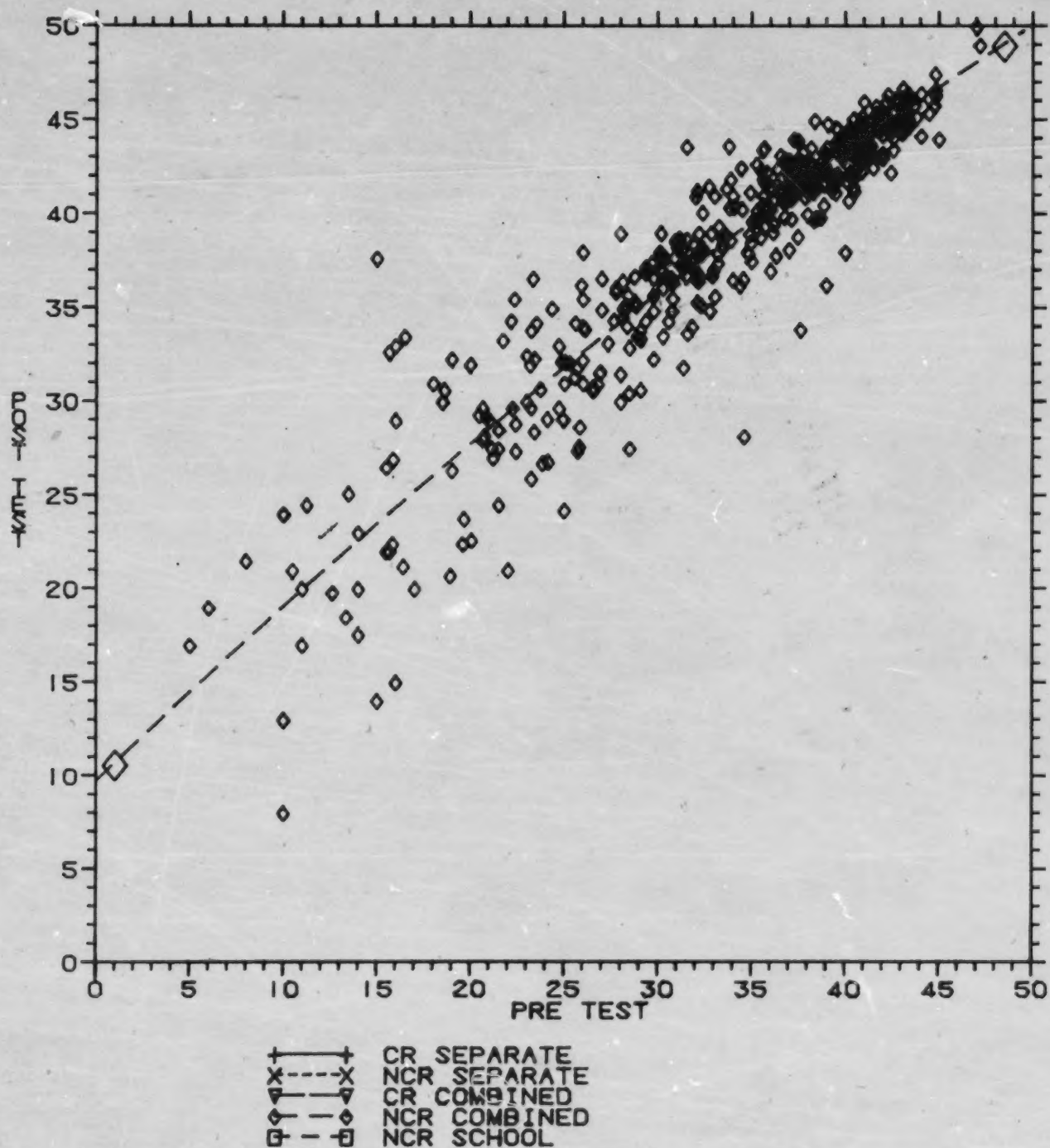
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4. TEST IS MAT WORD KNOWLEDGE



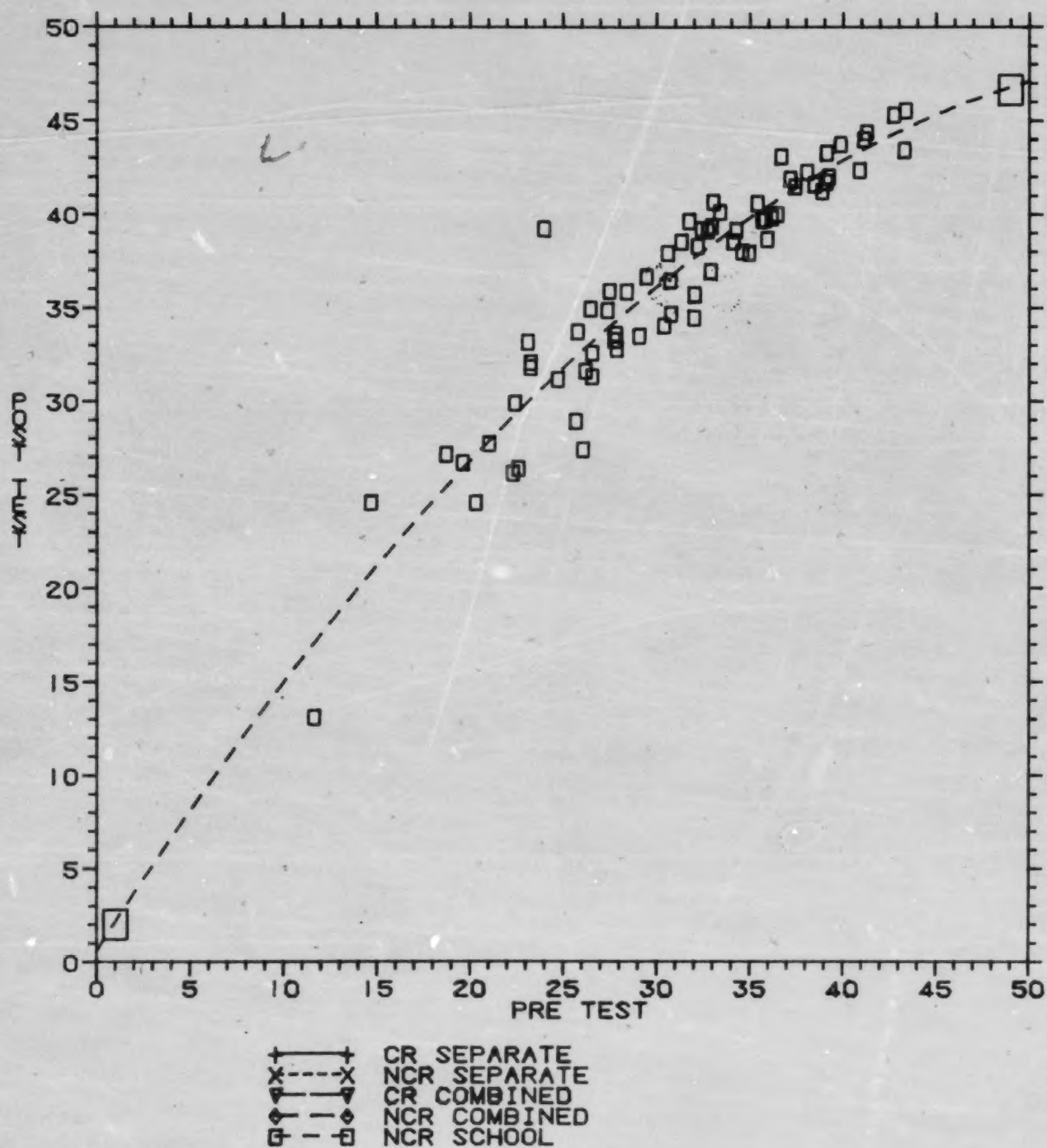
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
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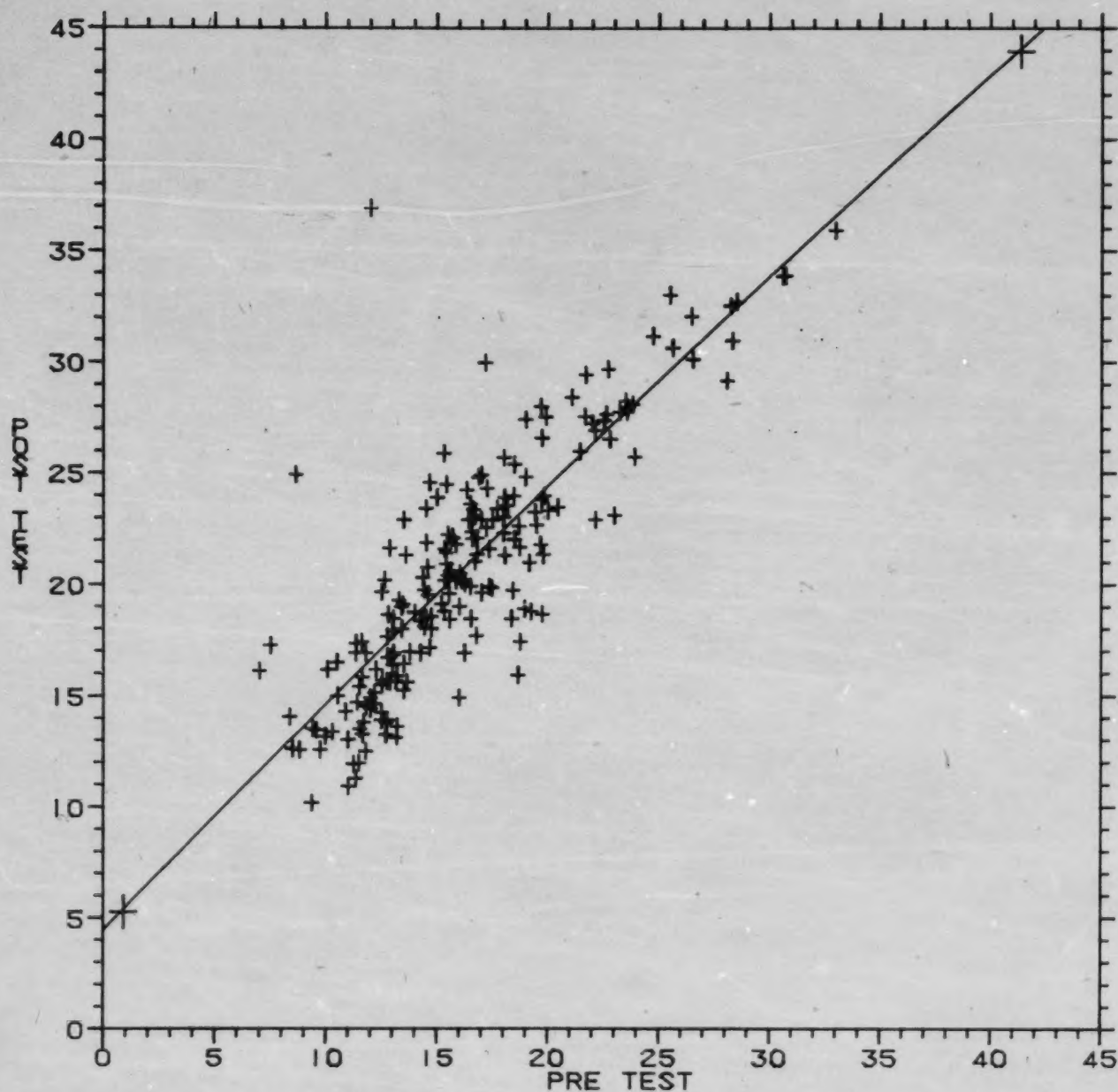
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS MAT WORD KNOWLEDGE



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 4, TEST IS MAT WORD KNOWLEDGE

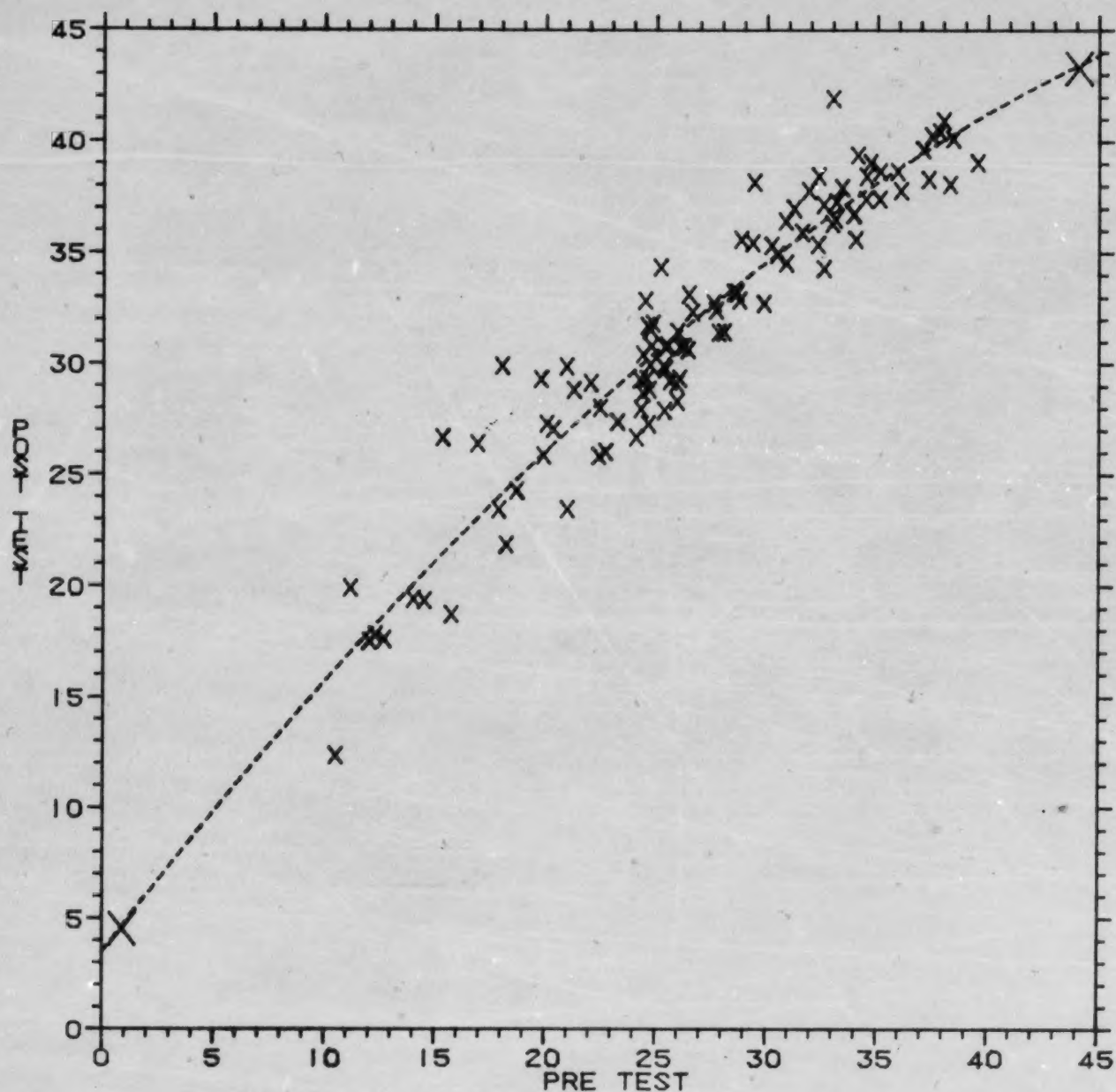


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 4, TEST IS MAT READING



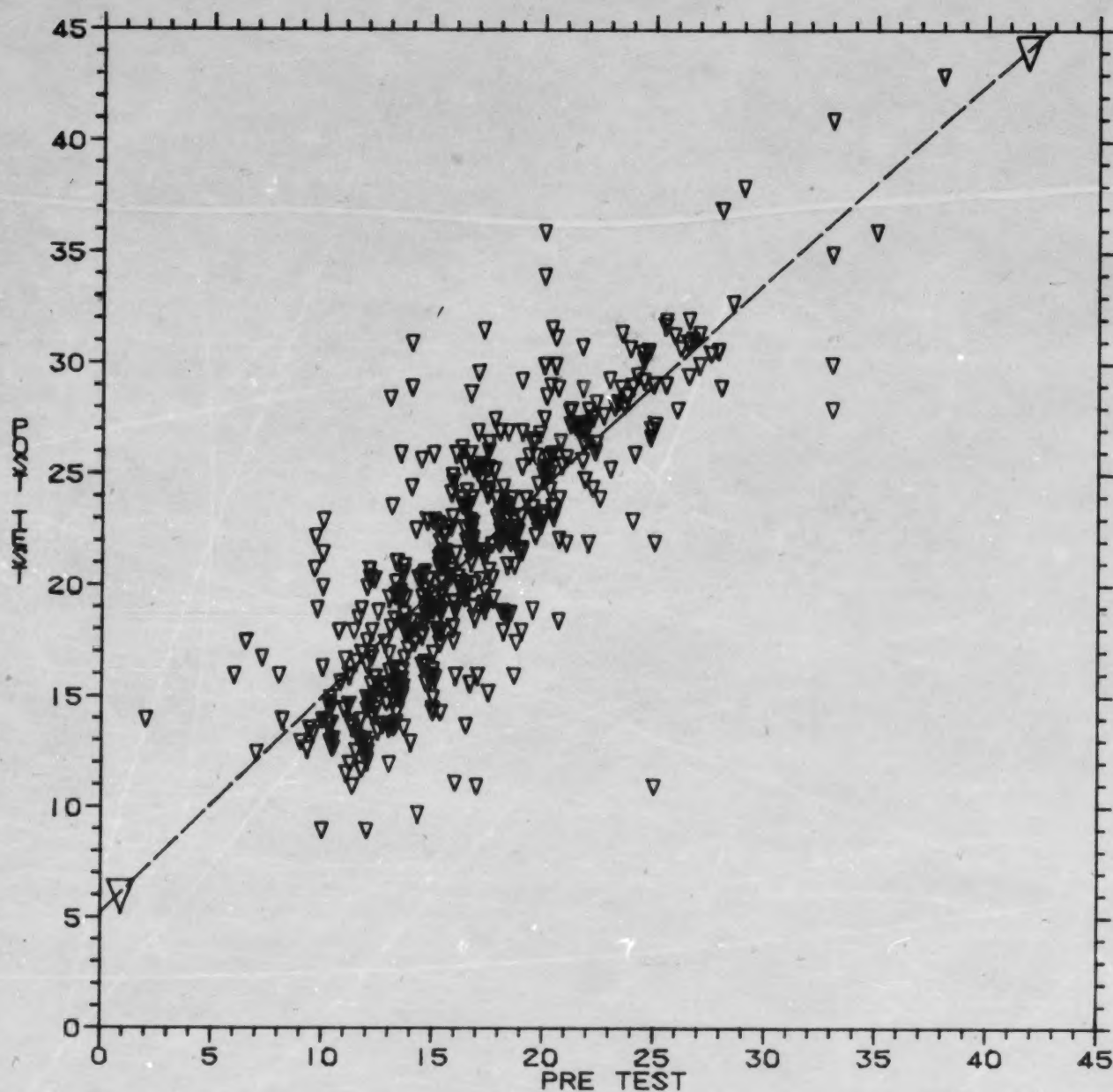
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 x — x NCR SEPARATE
 v — v CR COMBINED
 o — o NCR COMBINED
 □ — □ NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 4, TEST IS MAT READING



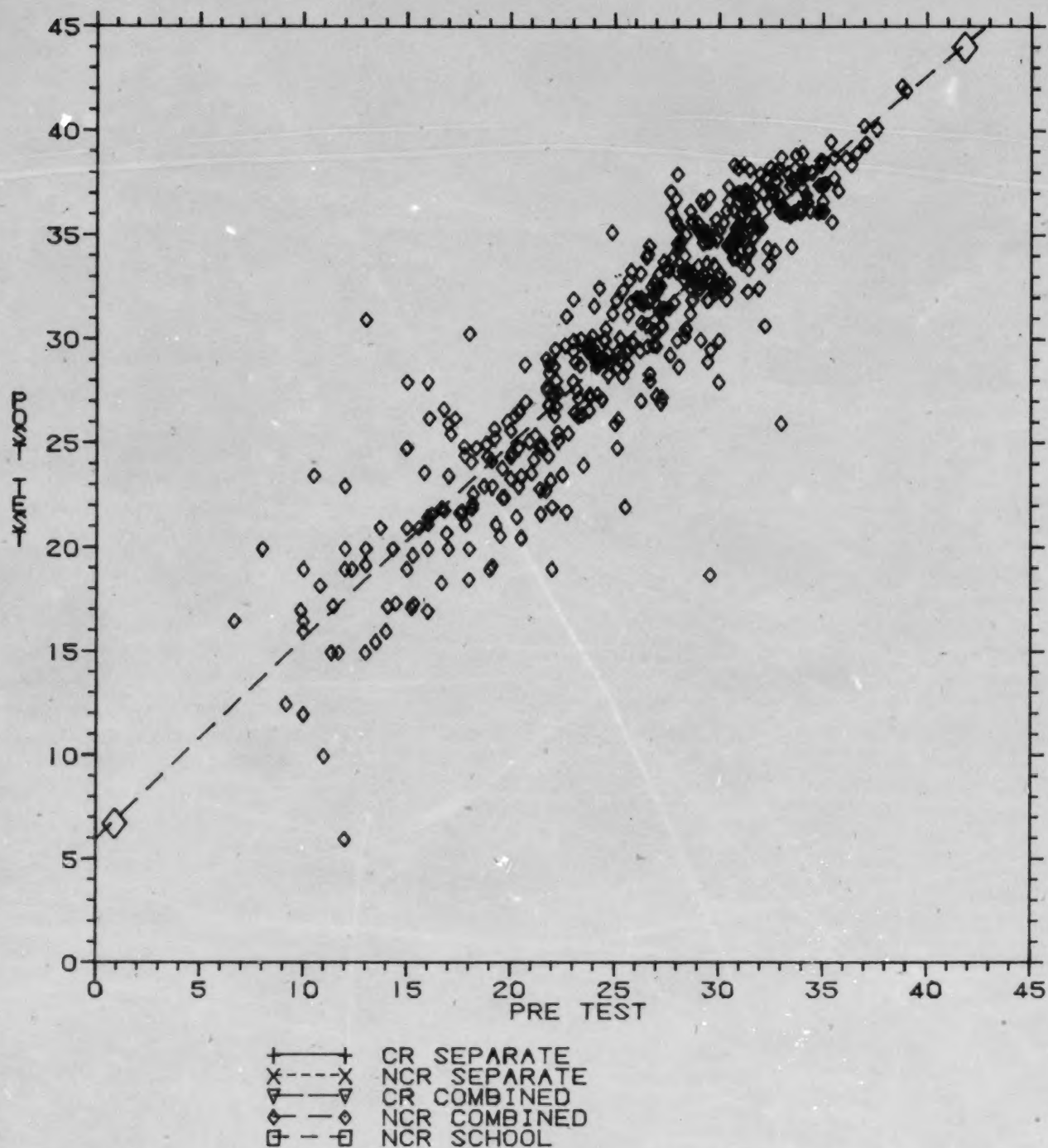
+	+	CR SEPARATE
x	x	NCR SEPARATE
▽	▽	CR COMBINED
◇	◇	NCR COMBINED
□	□	NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS MAT READING

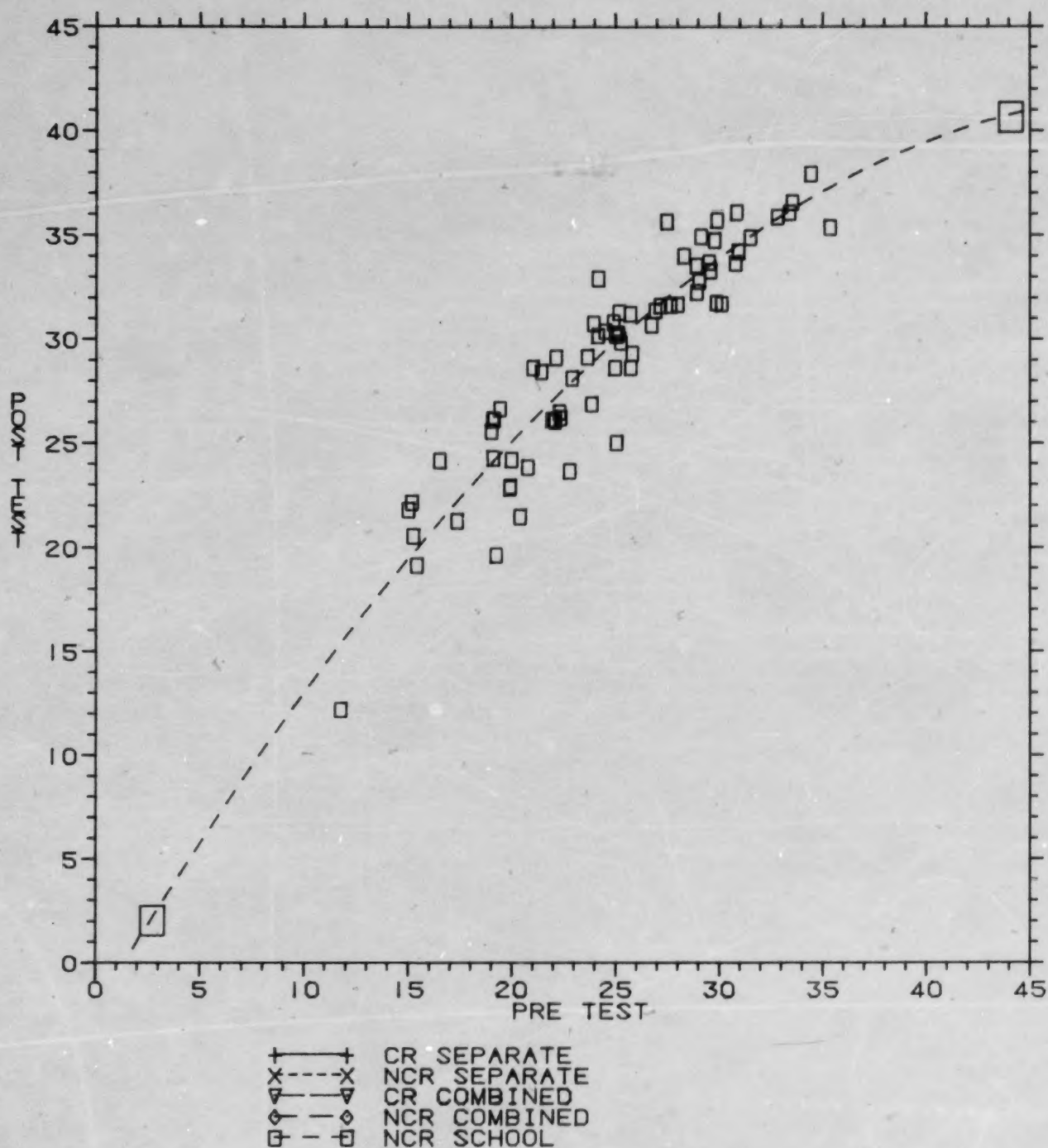


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 v — v CR COMBINED
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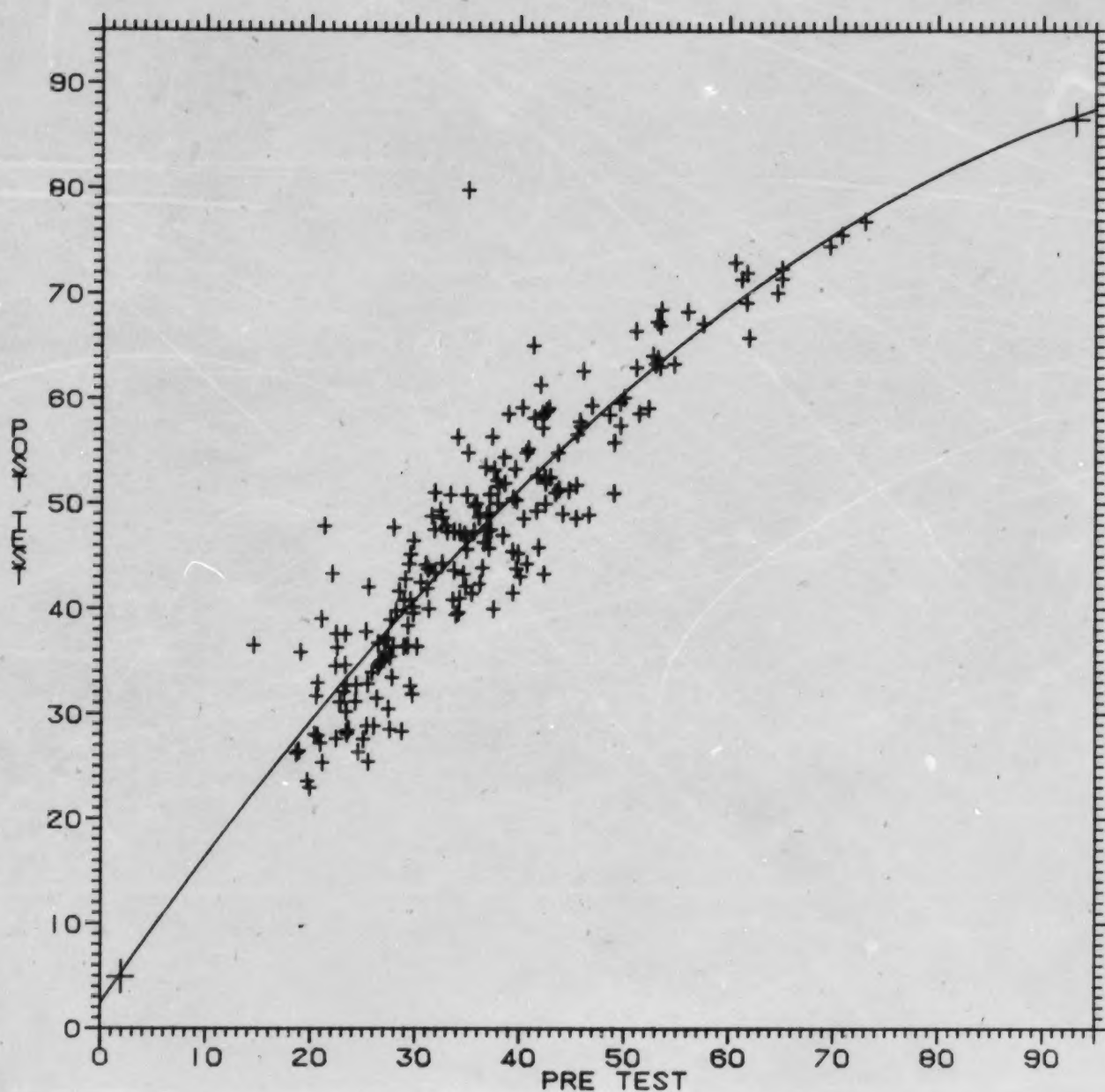
COMPENSATORY READING - PHASE 2
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 GRADE 4. TEST IS MAT READING



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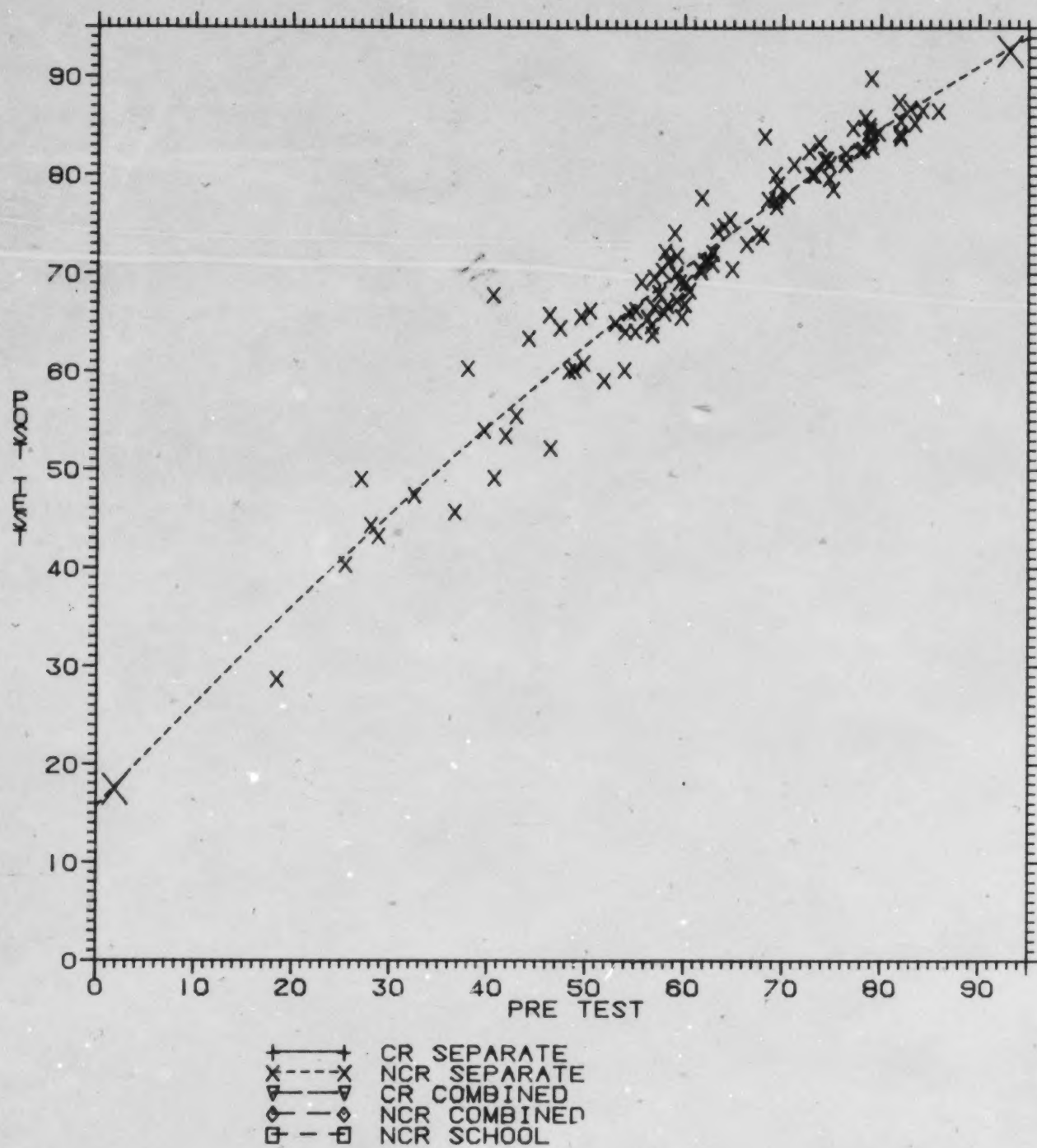


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS MAT TOTAL

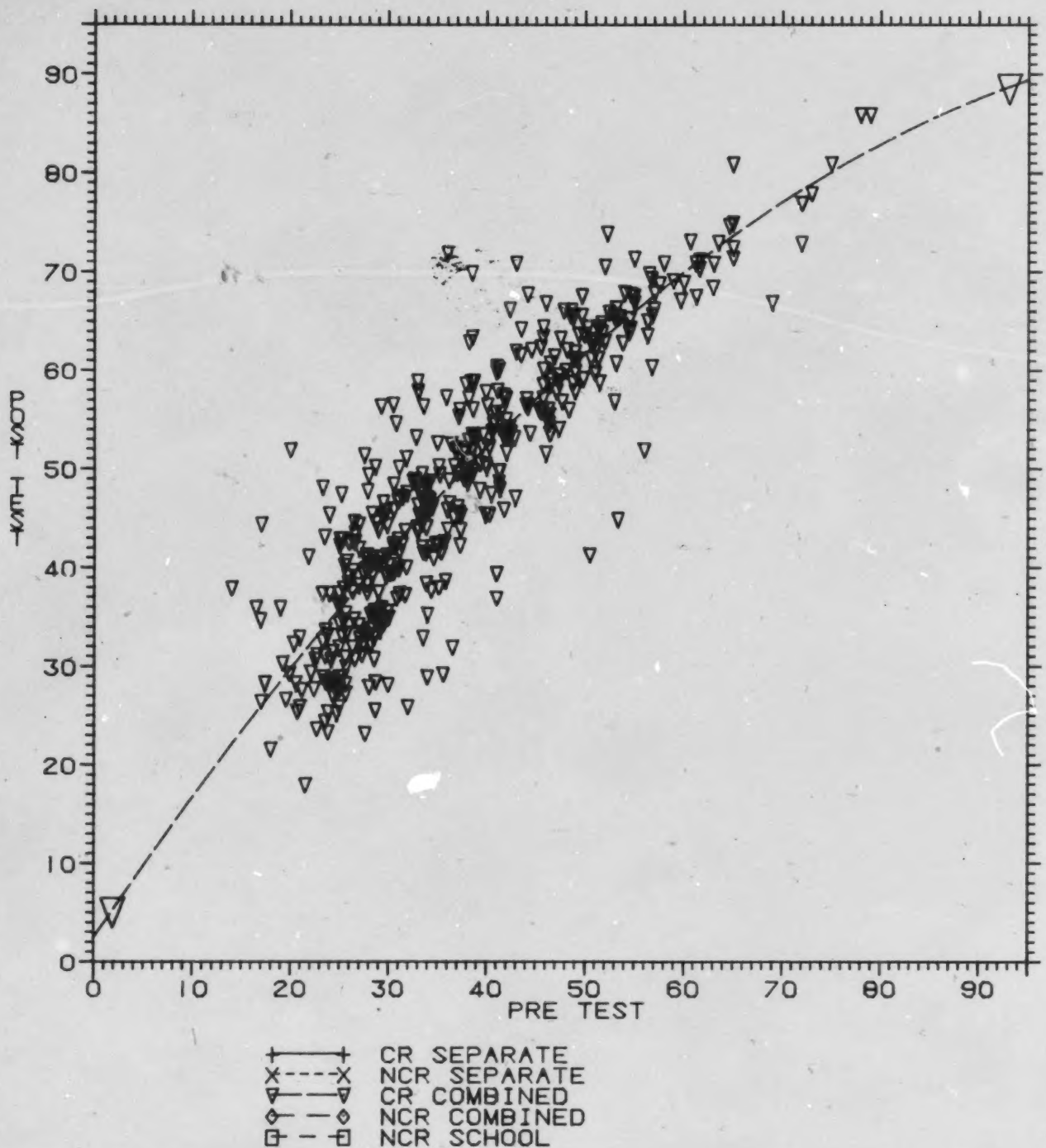


+-----+ CR SEPARATE
 x-----x NCR SEPARATE
 v-----v CR COMBINED
 o-----o NCR COMBINED
 □-----□ NCR SCHOOL

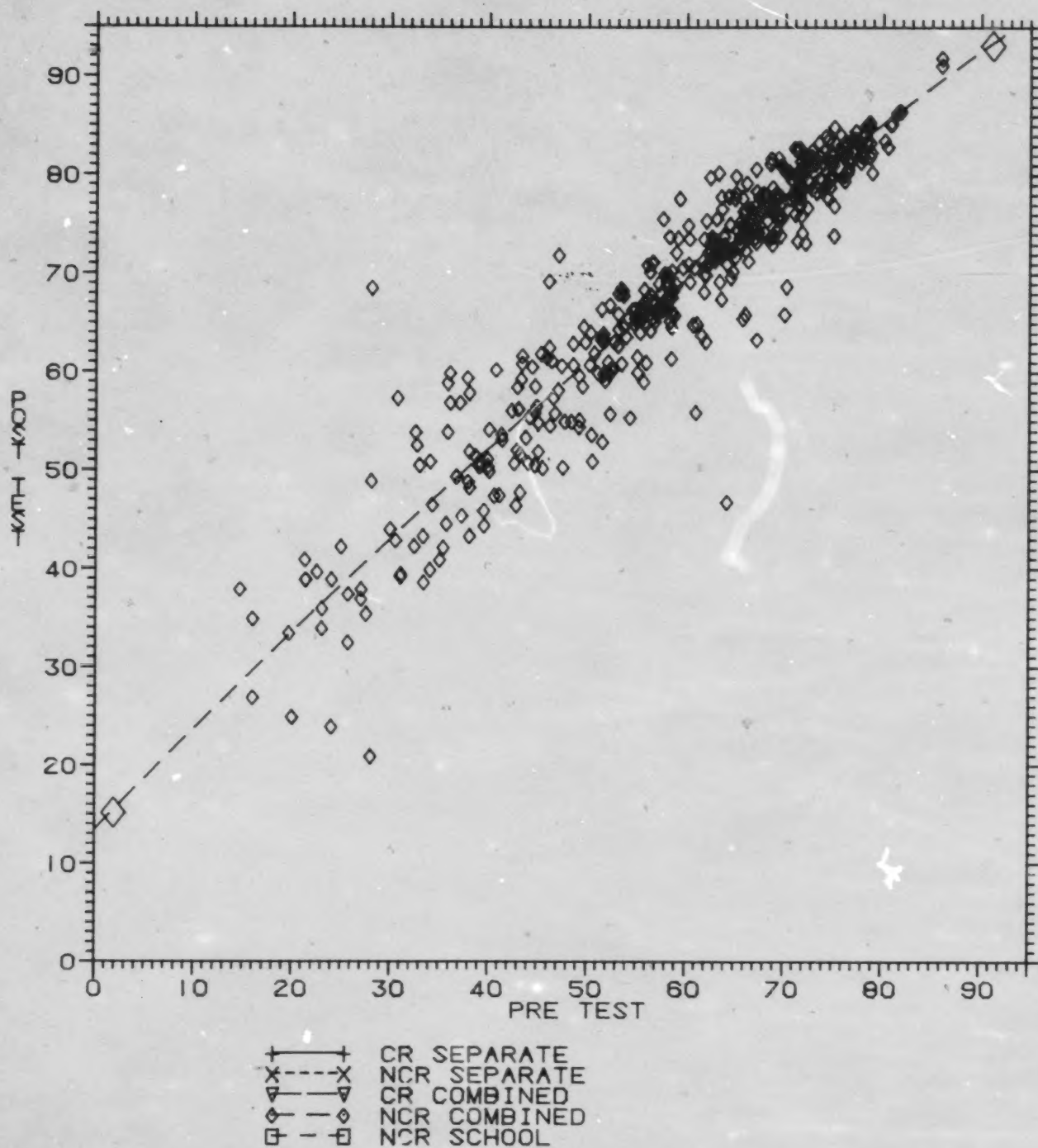
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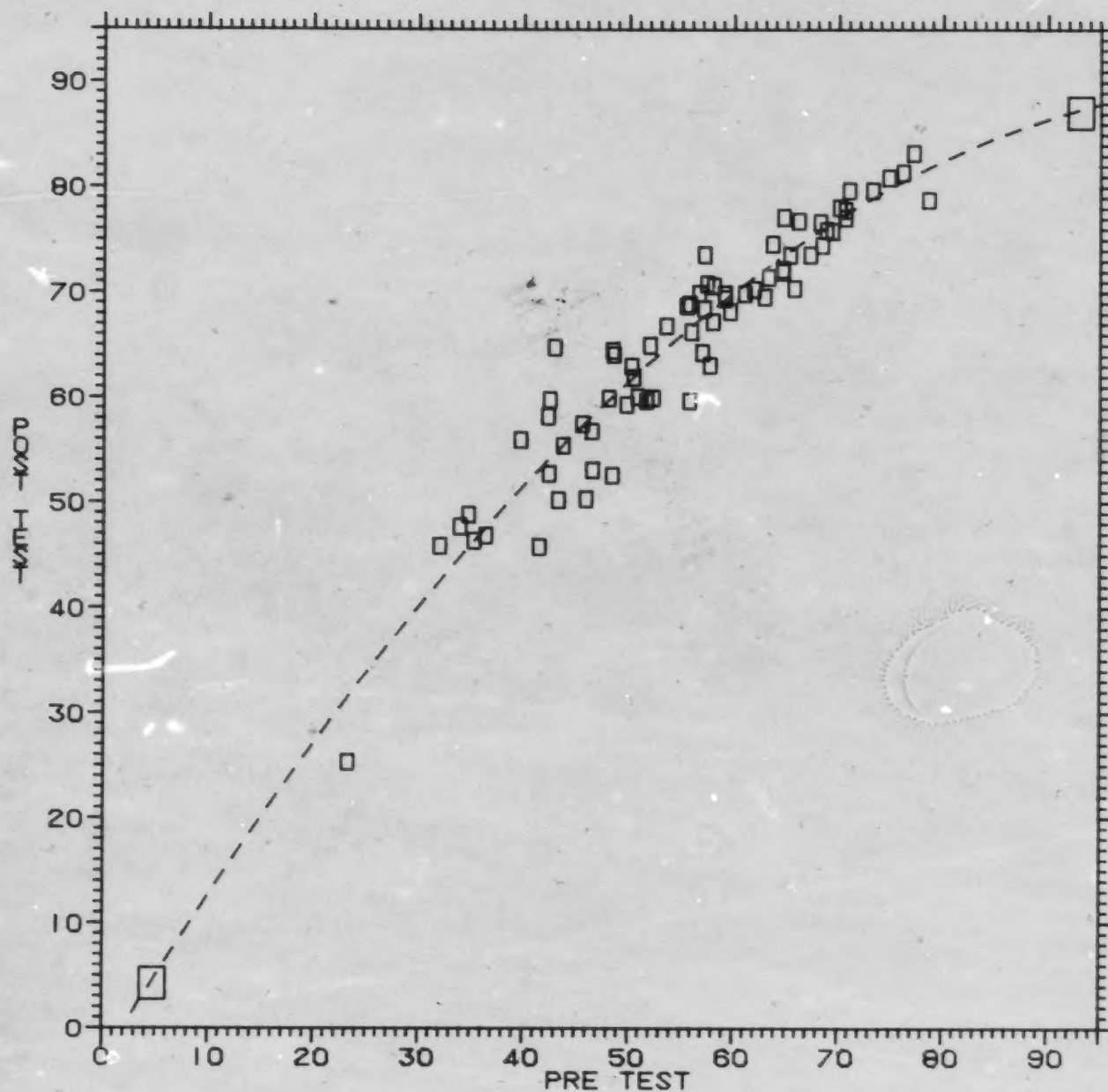
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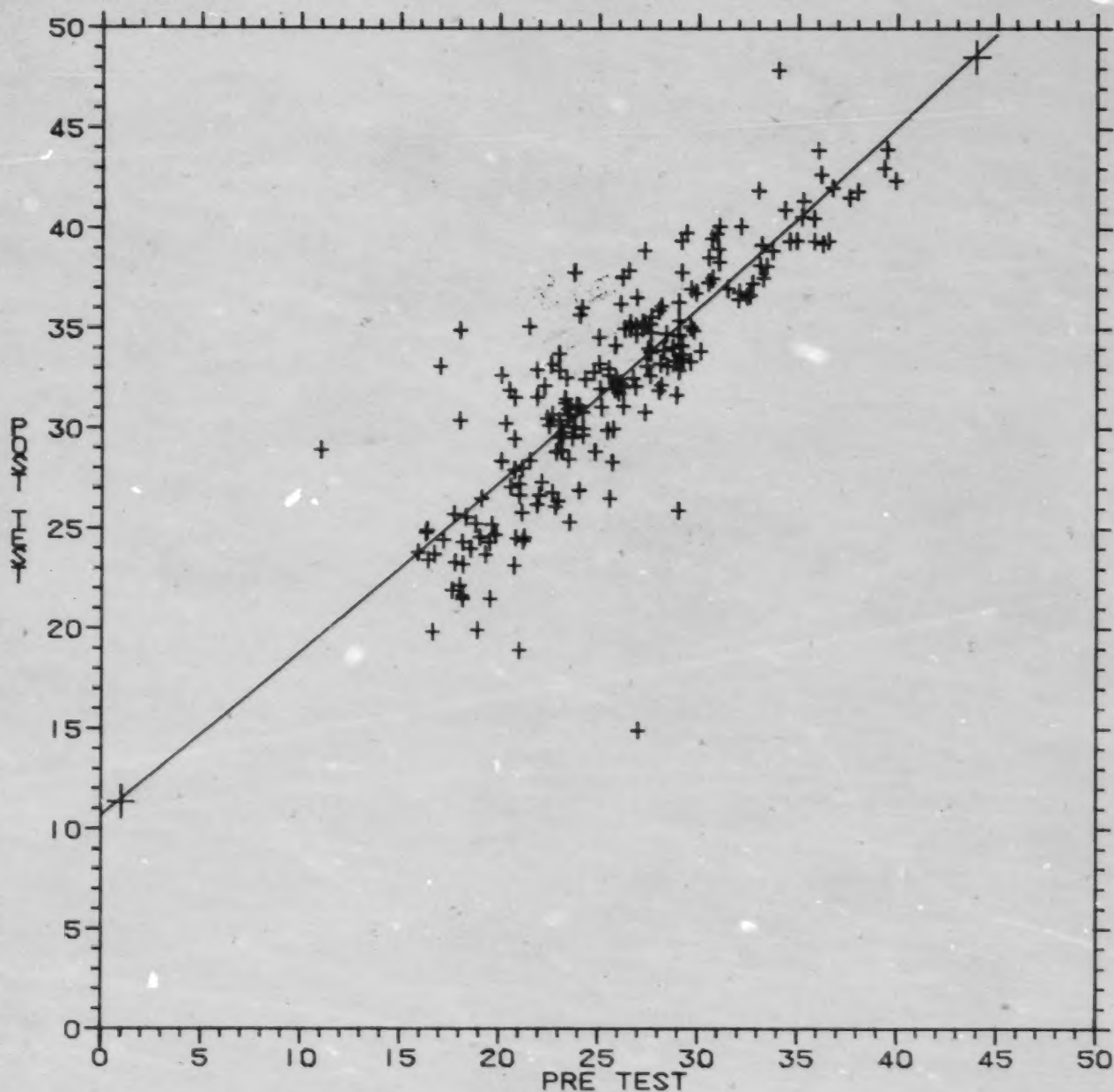


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS MAT TOTAL



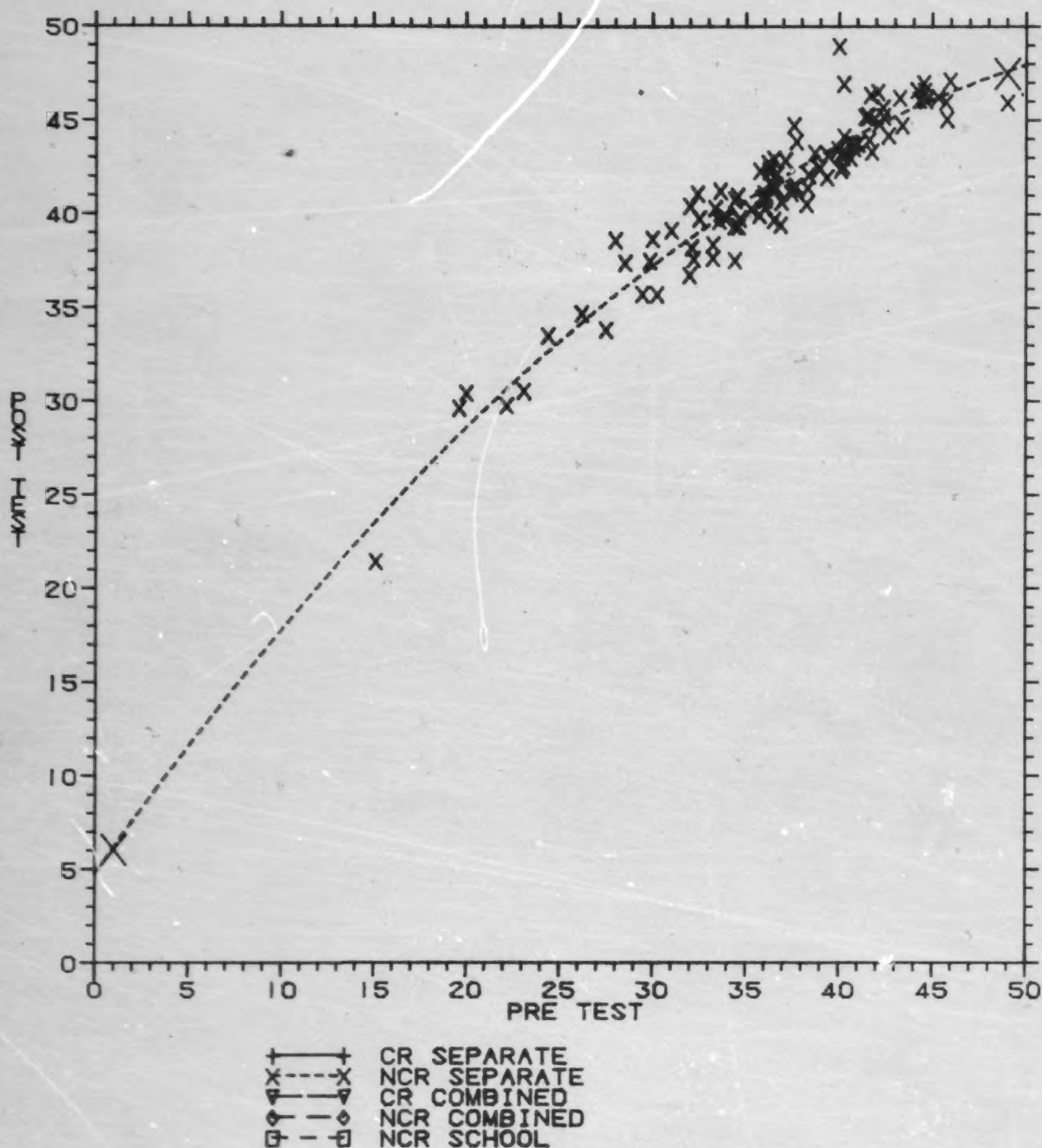
+-----+ CR SEPARATE
 x-----x NCR SEPARATE
 v-----v CR COMBINED
 d-----d NCR COMBINED
 □-----□ NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS COOP

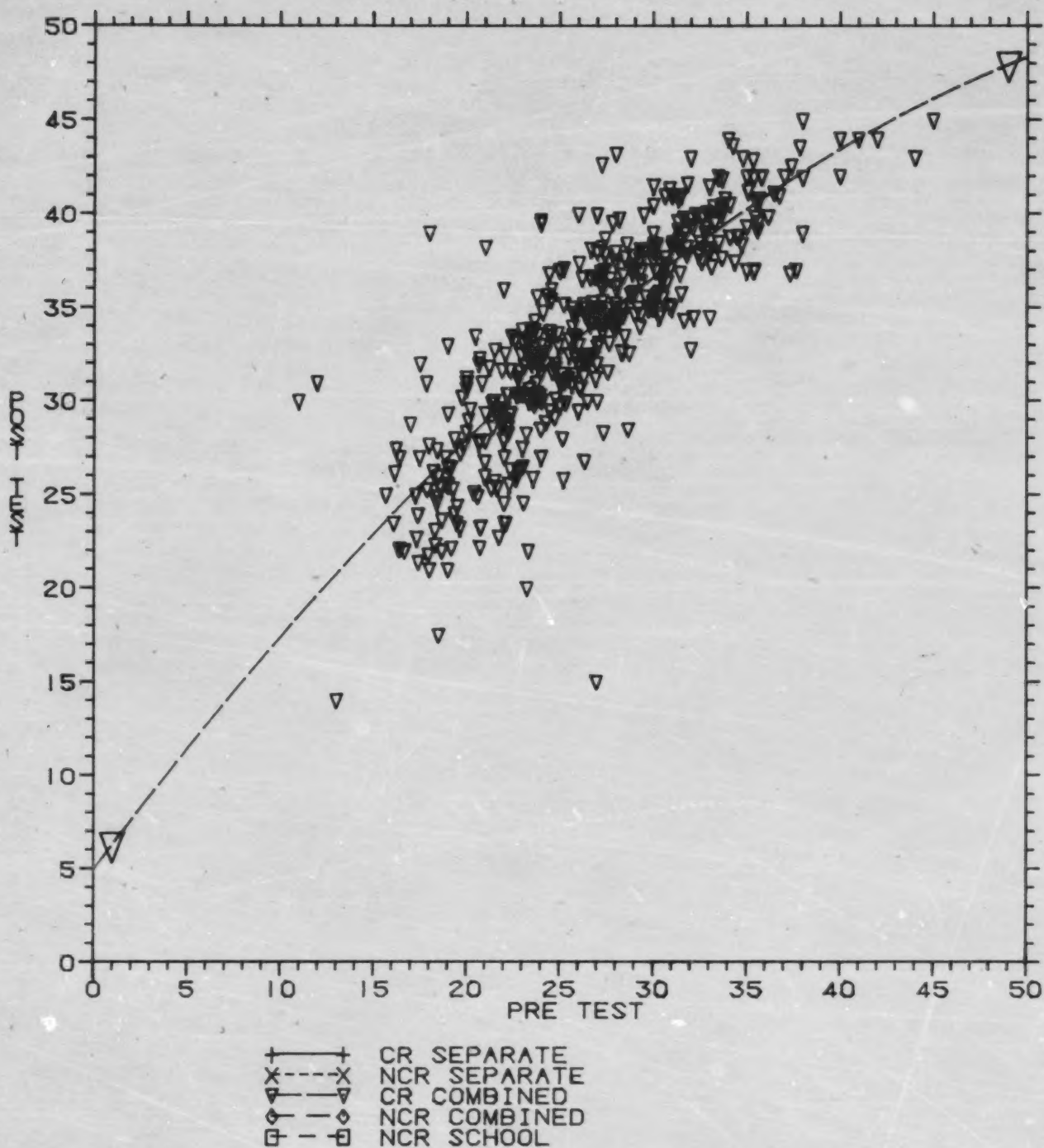


+	+	CR SEPARATE
x	x	NCR SEPARATE
▽	▽	CR COMBINED
◇	◇	NCR COMBINED
□	□	NCR SCHOOL

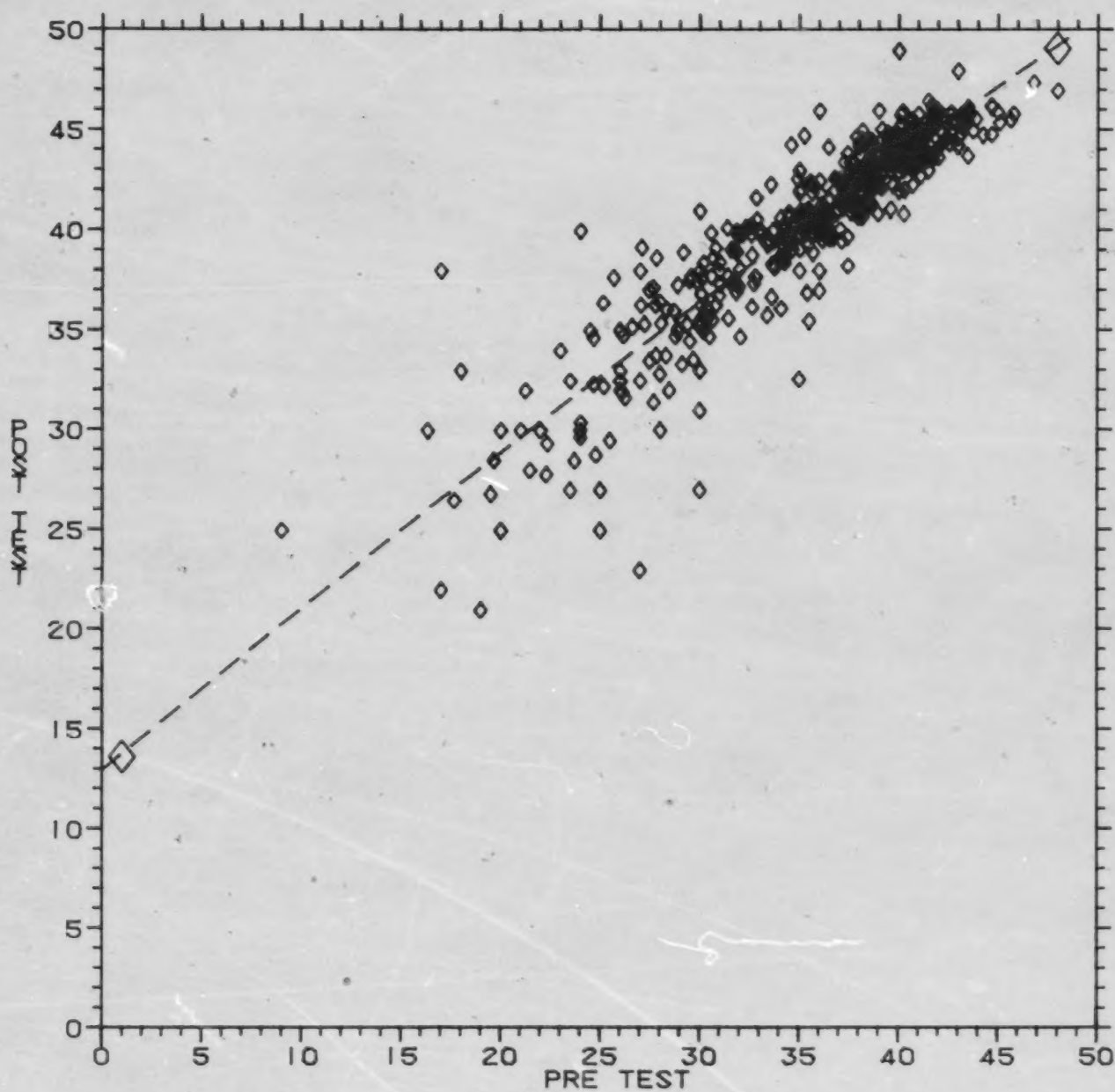
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4. TEST IS COOP



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS COOP

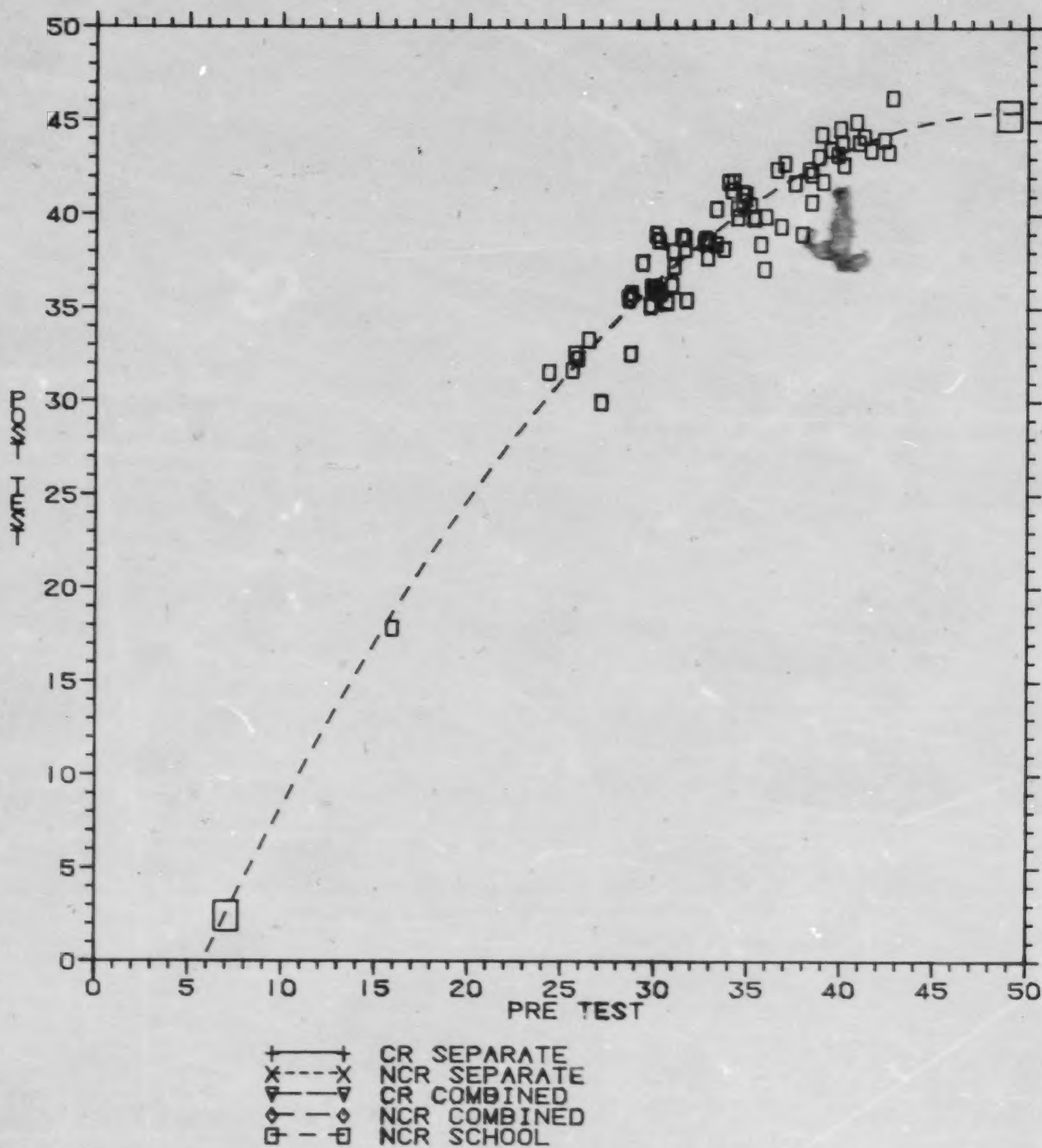


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS COOP

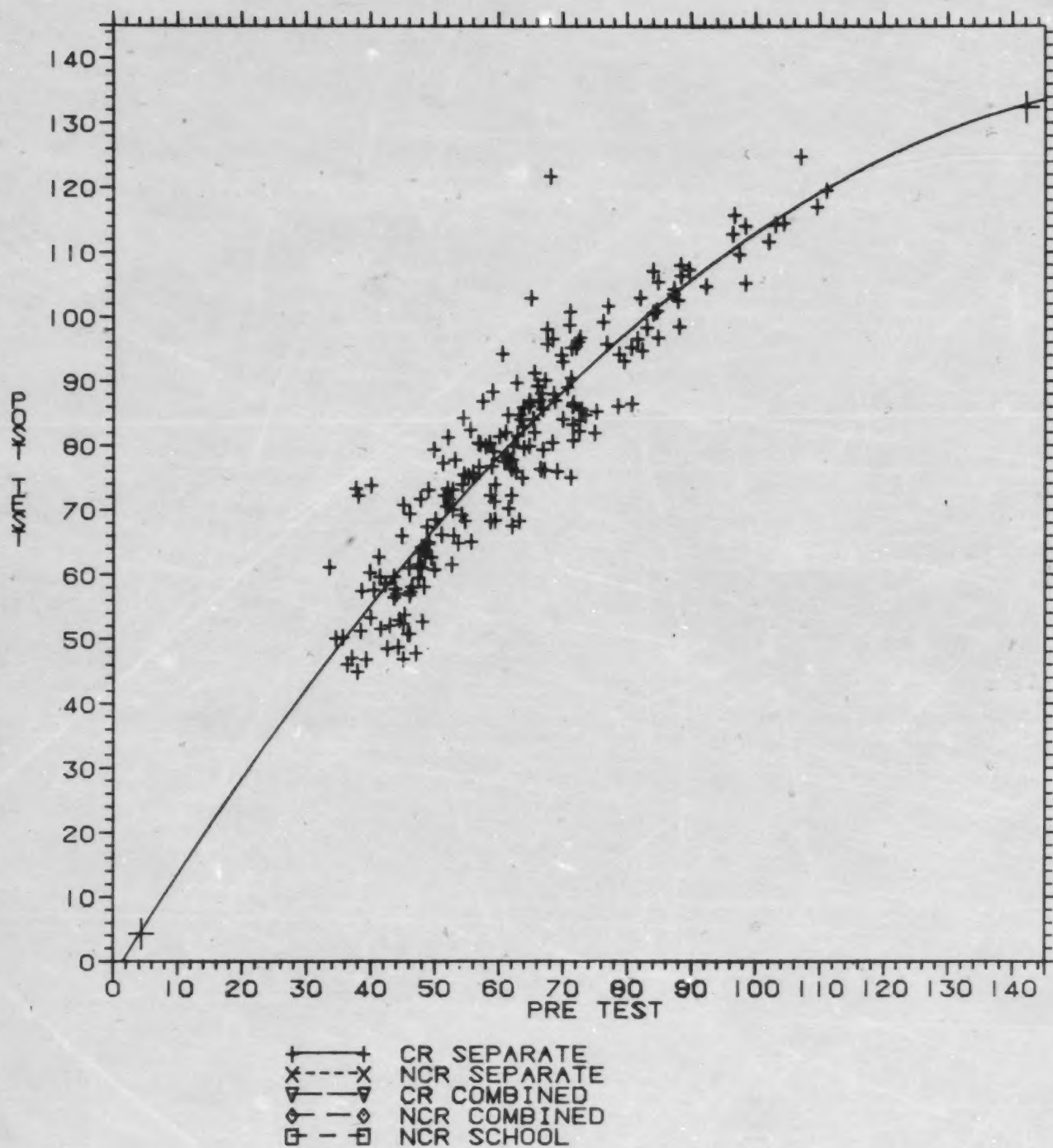


+ — + CR SEPARATE
 x — x NCR SEPARATE
 v — v CR COMBINED
 o — o NCR COMBINED
 □ — □ NCR SCHOOL

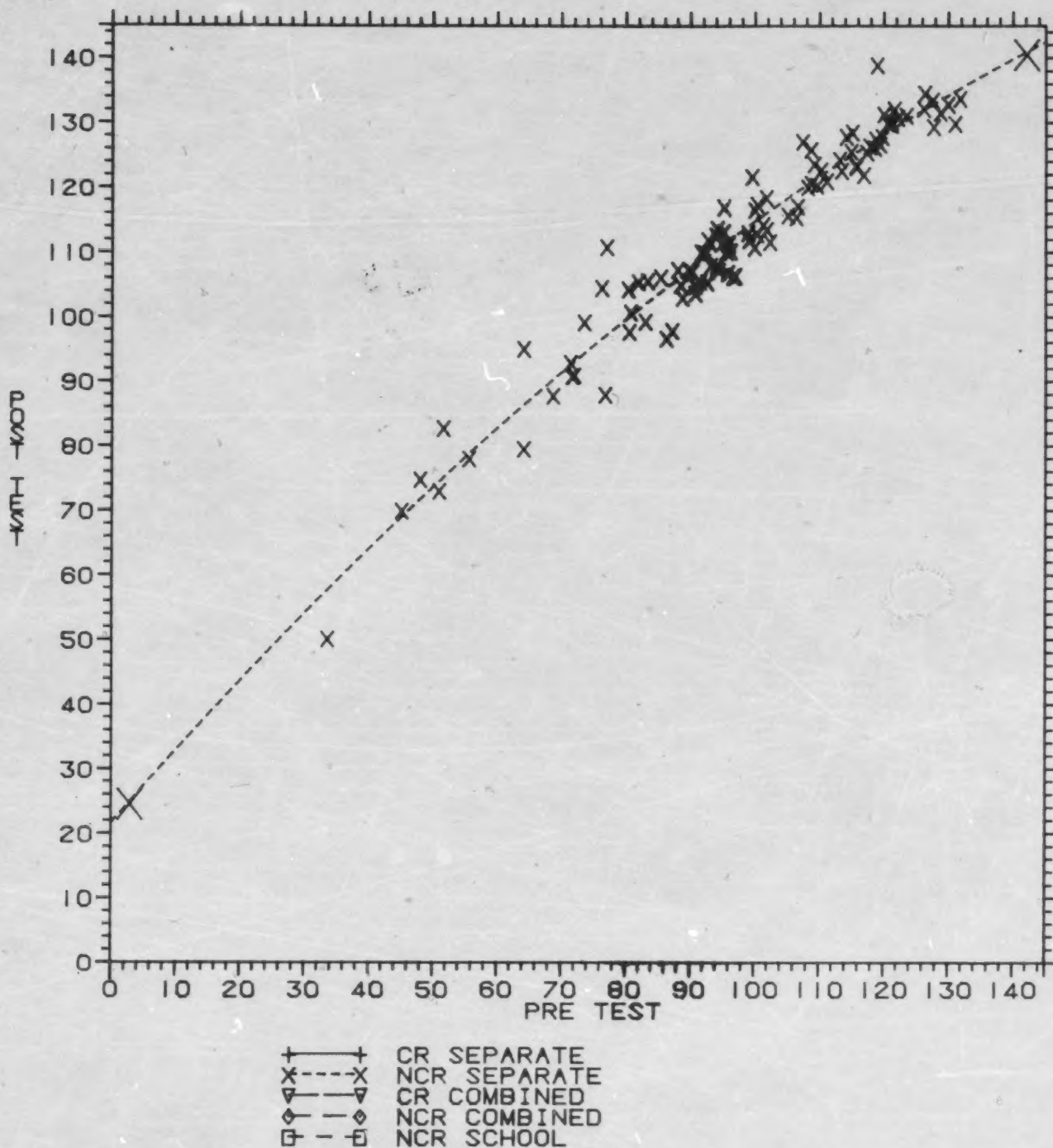
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS COOP



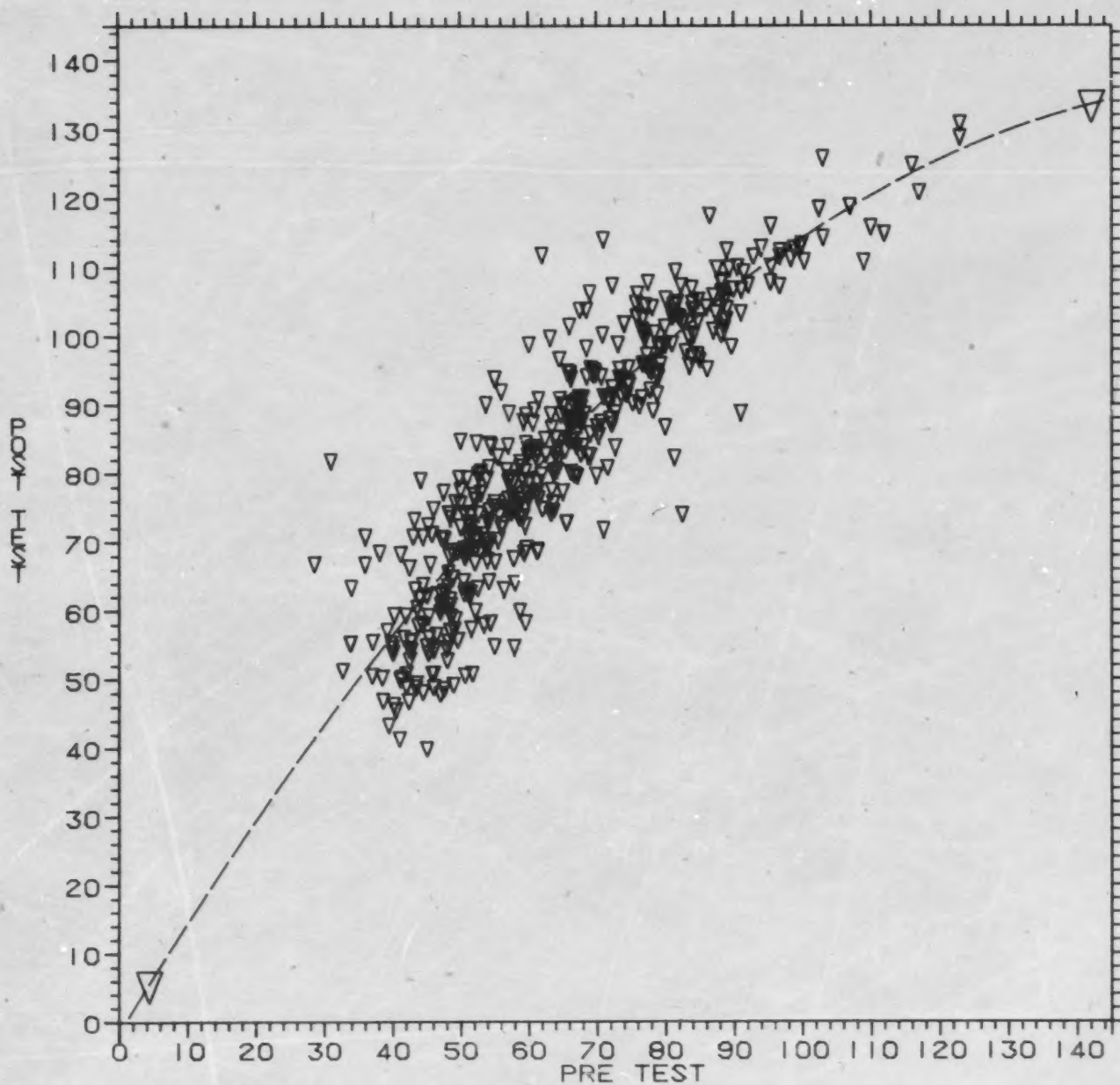
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS TOTAL



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS TOTAL

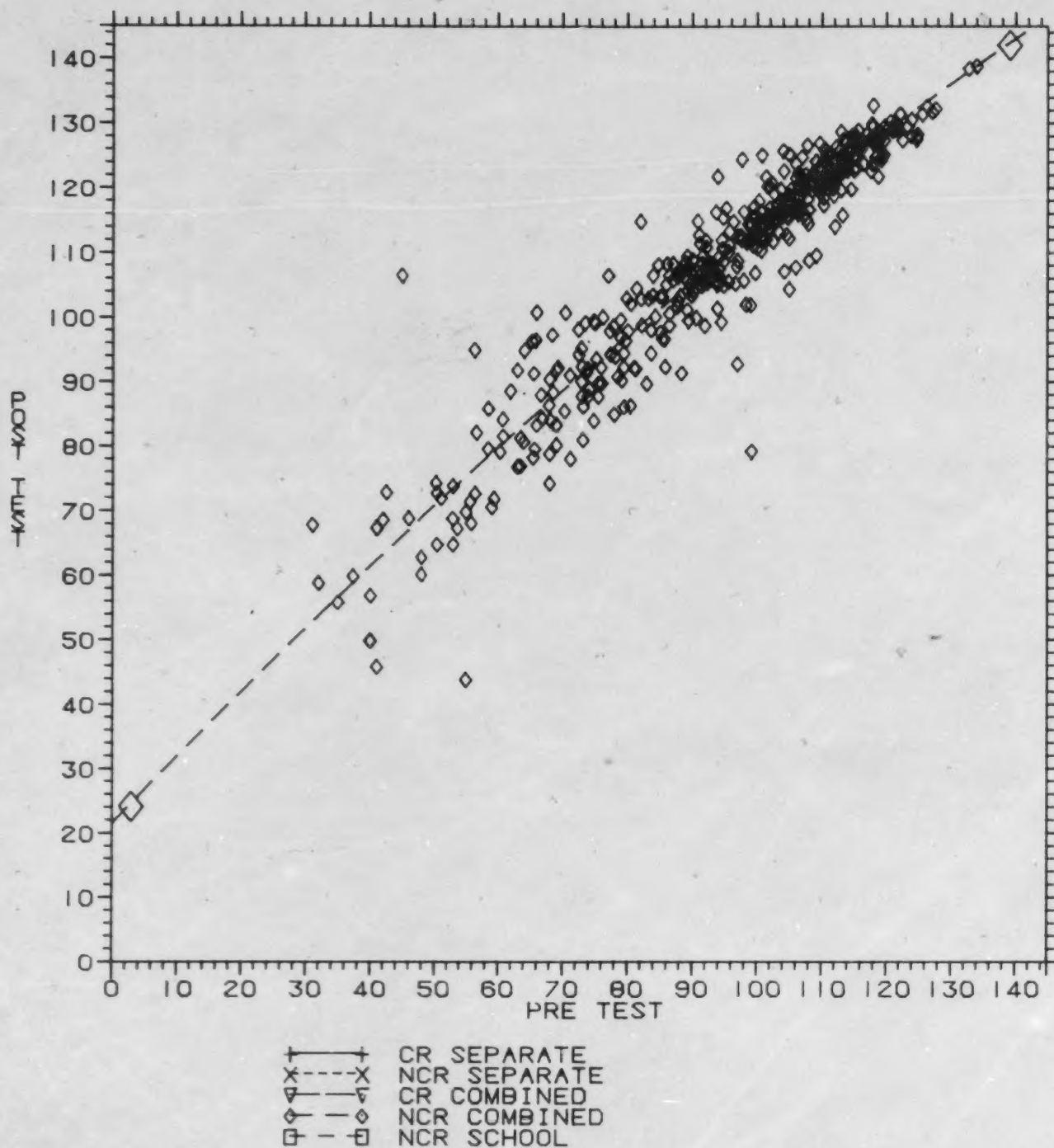


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS TOTAL

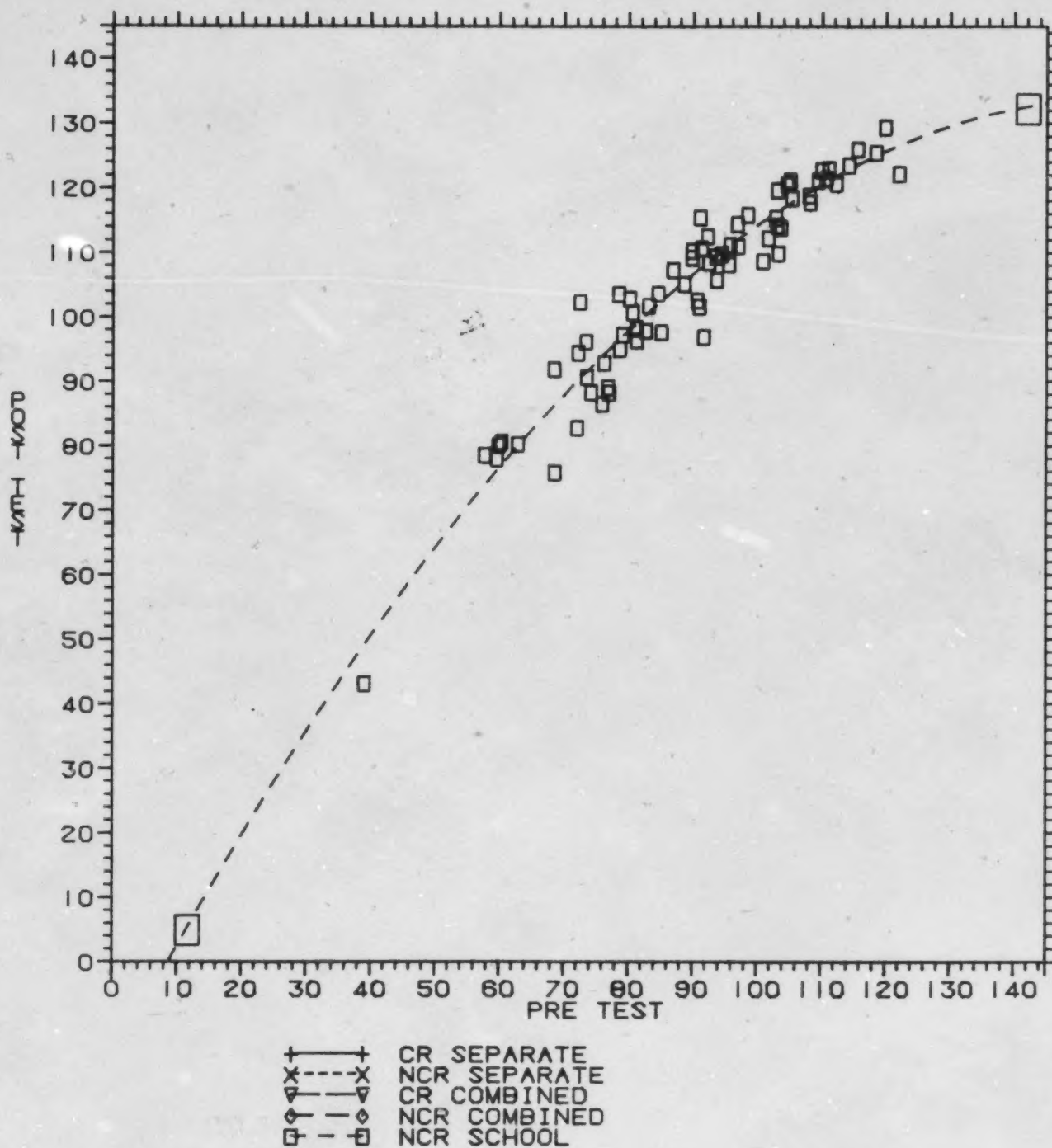


+	+	CR SEPARATE
x	---	NCR SEPARATE
▽	---	CR COMBINED
◇	---	NCR COMBINED
□	---	NCR SCHOOL

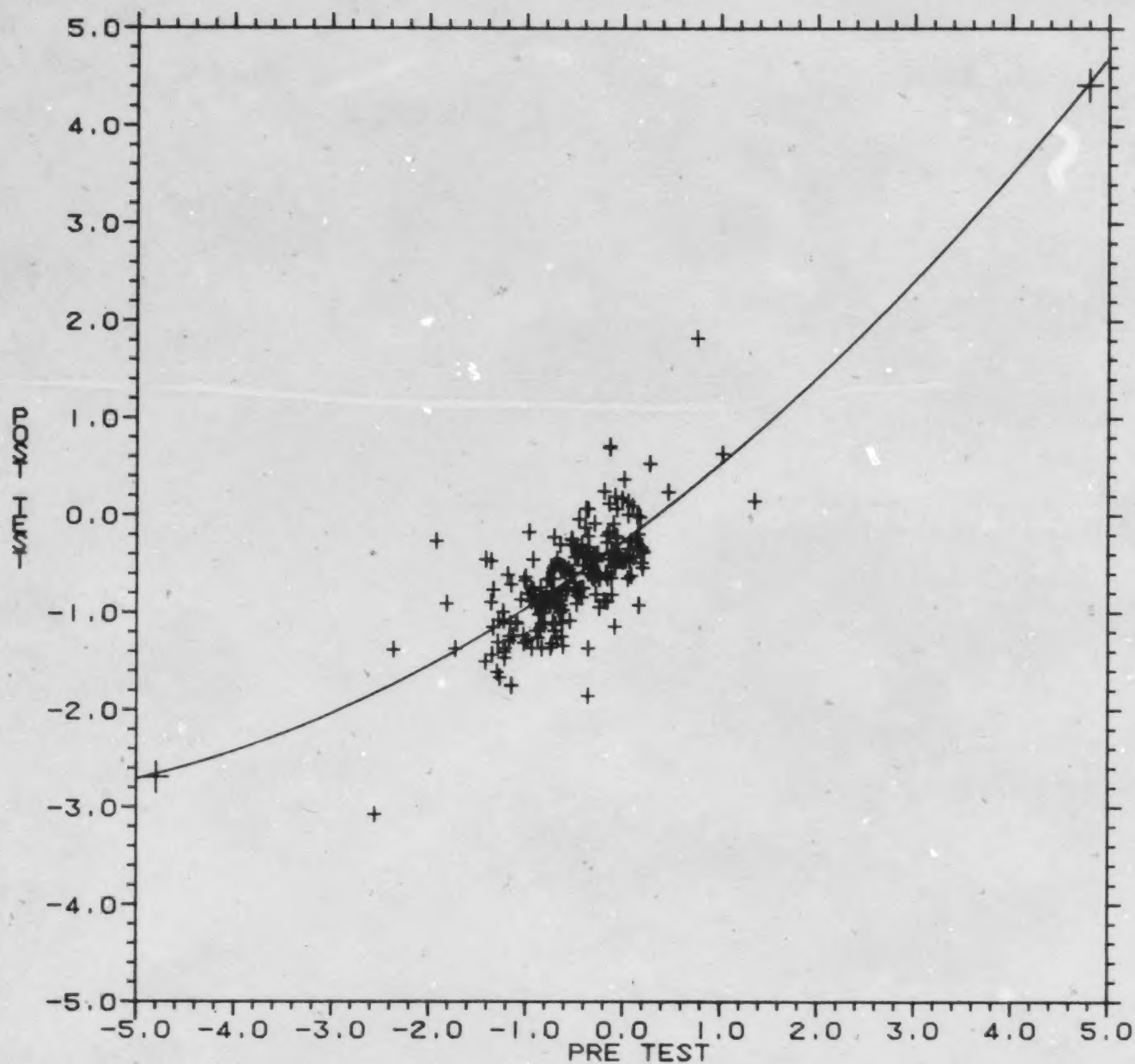
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS TOTAL



COMPENSATORY READING - PHASE 2
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 GRADE 4, TEST IS TOTAL

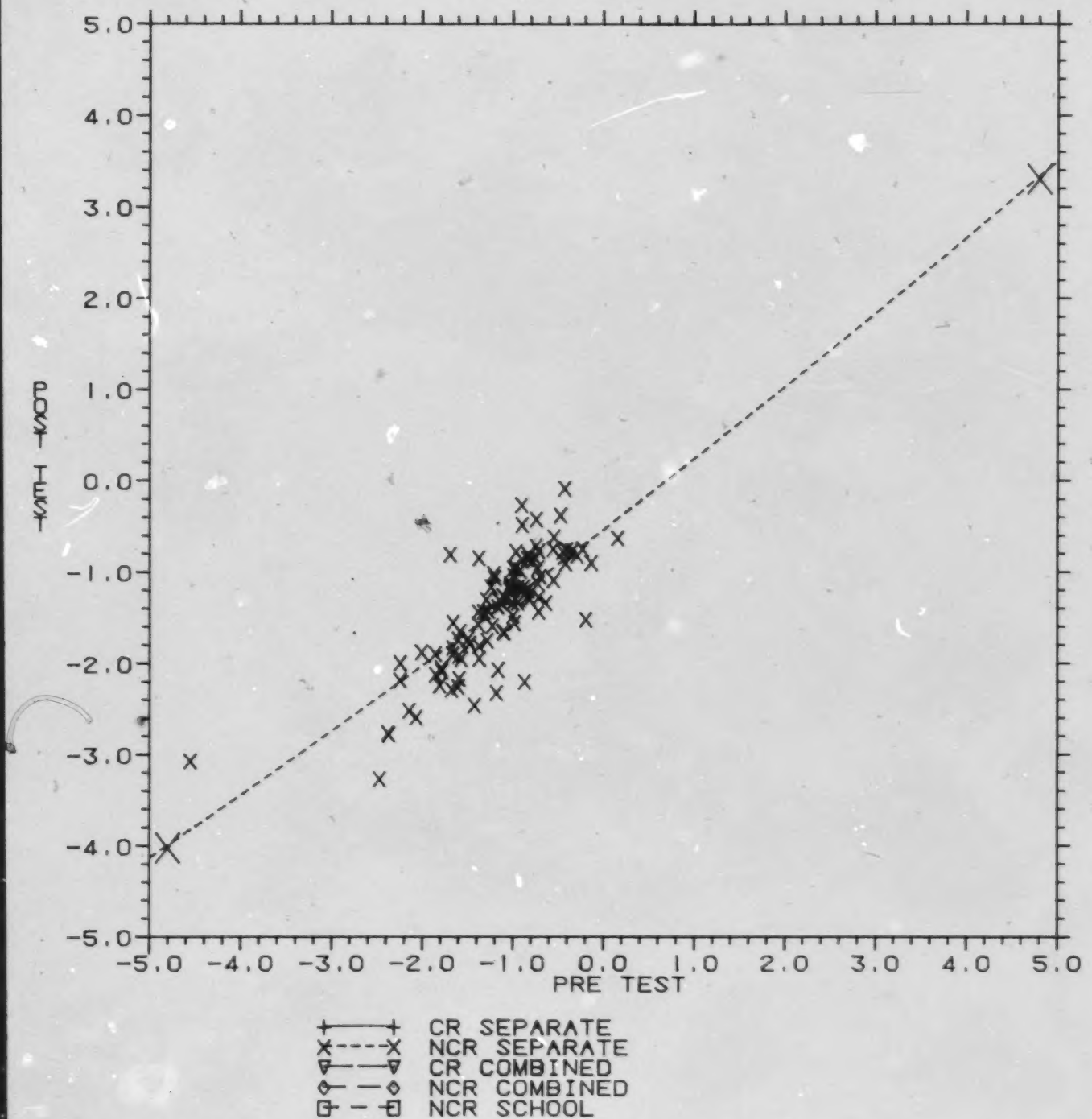


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4. TEST IS ATTITUDE

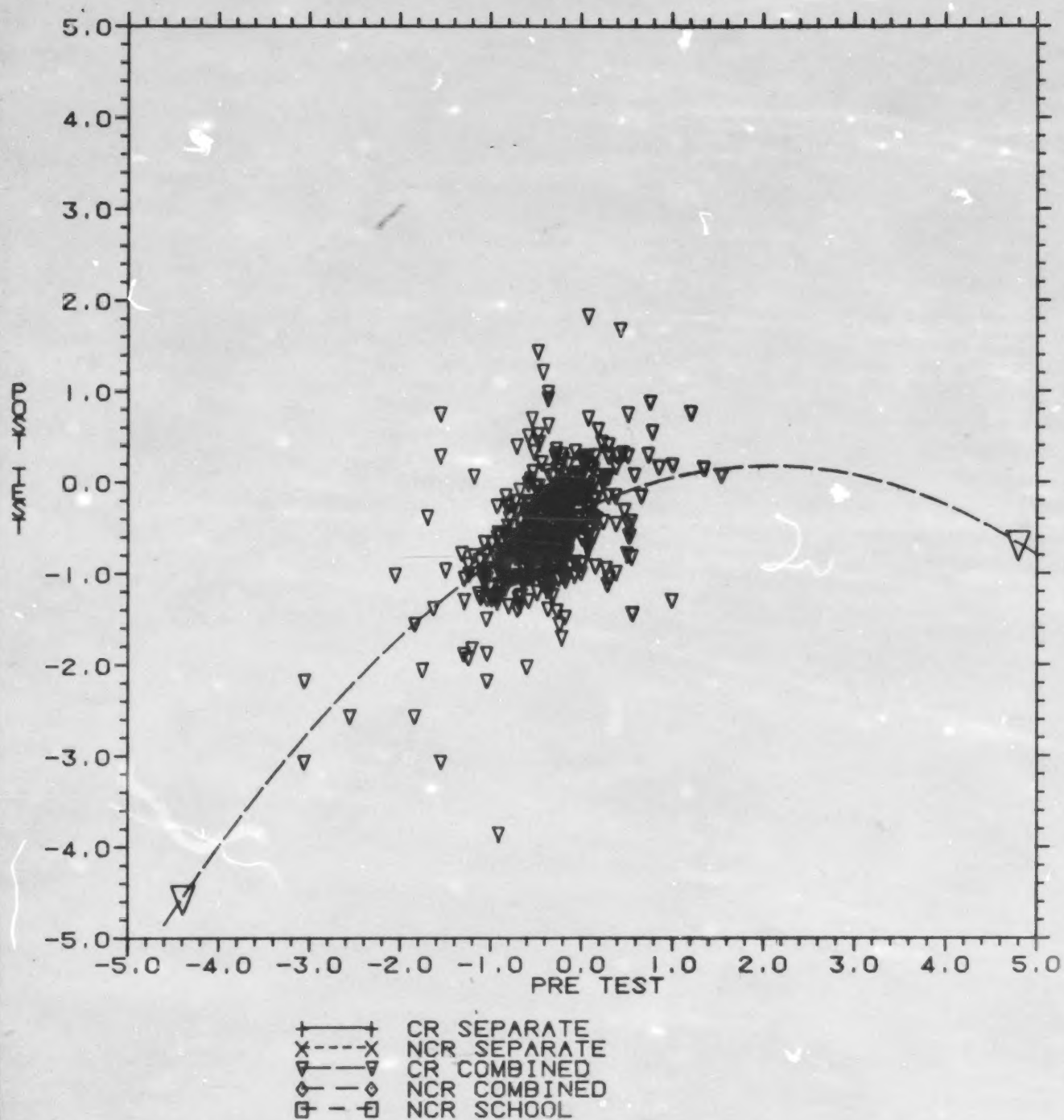


+ — + CR SEPARATE
 x — x NCR SEPARATE
 v — v CR COMBINED
 o — o NCR COMBINED
 □ — □ NCR SCHOOL

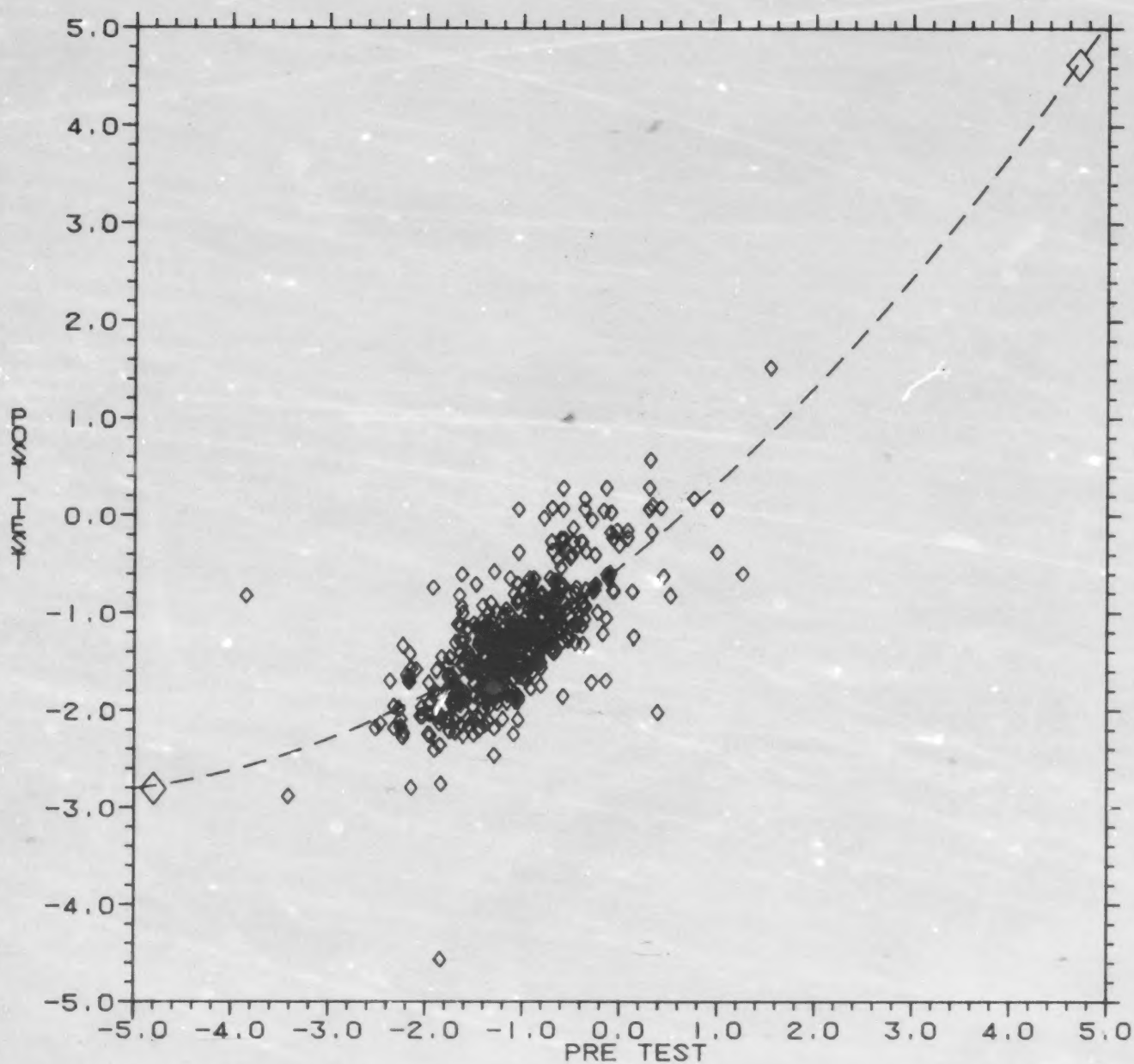
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 4, TEST IS ATTITUDE



COMPENSATORY READING - PHASE 2
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 GRADE 4, TEST IS ATTITUDE

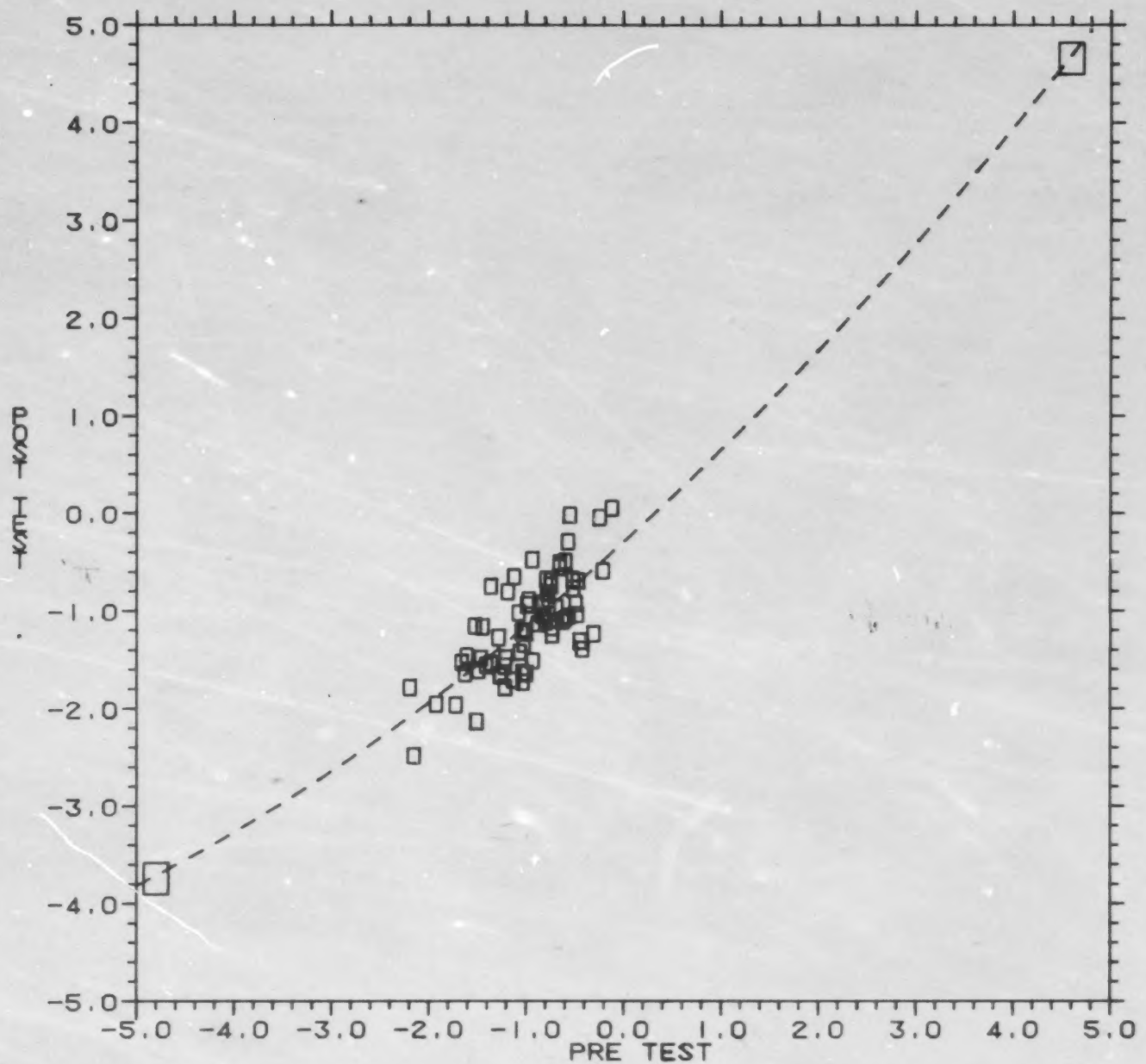


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS ATTITUDE



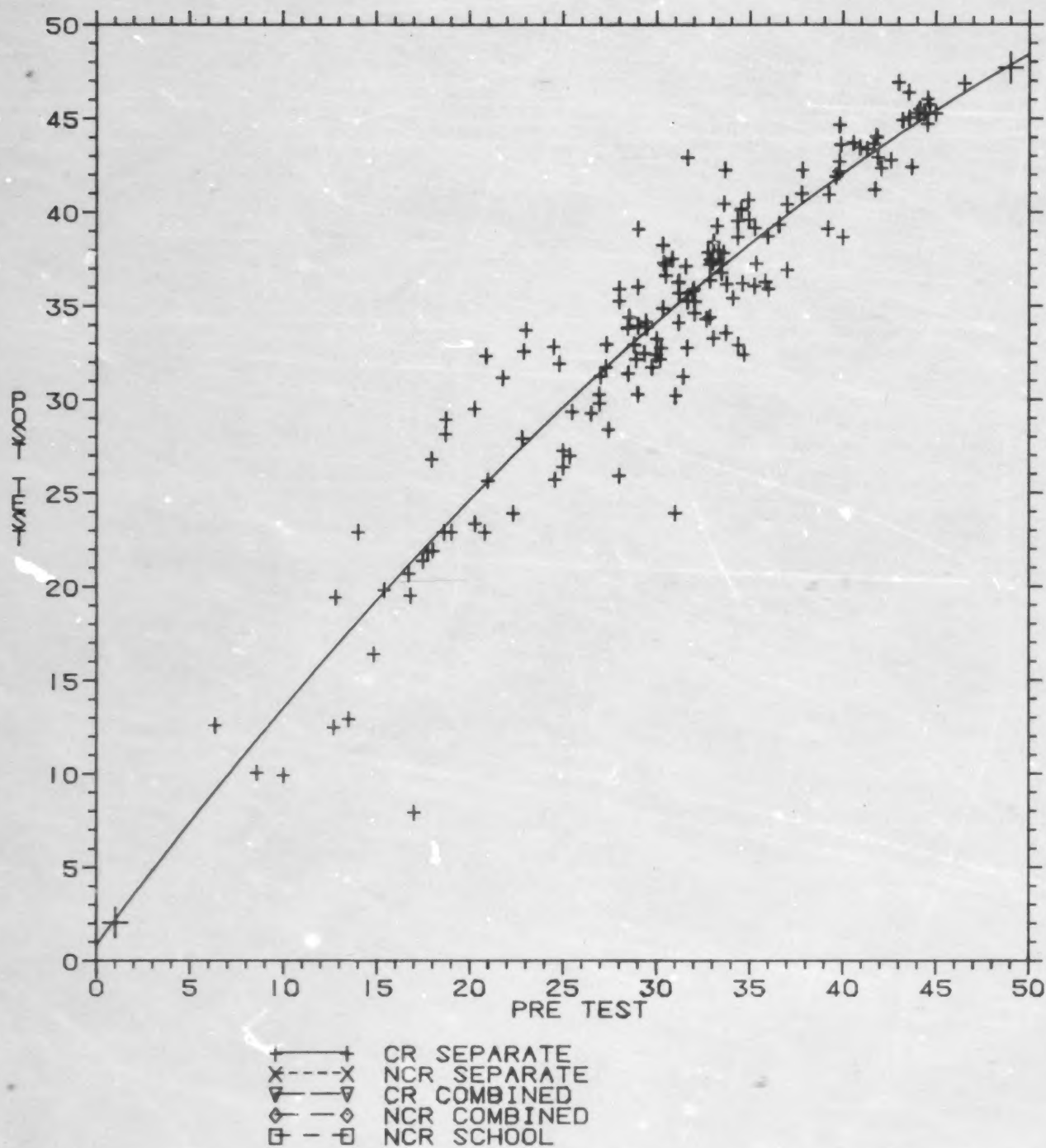
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 x-----x NCR SEPARATE
 v-----v CR COMBINED
 o-----o NCR COMBINED
 □-----□ NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS ATTITUDE

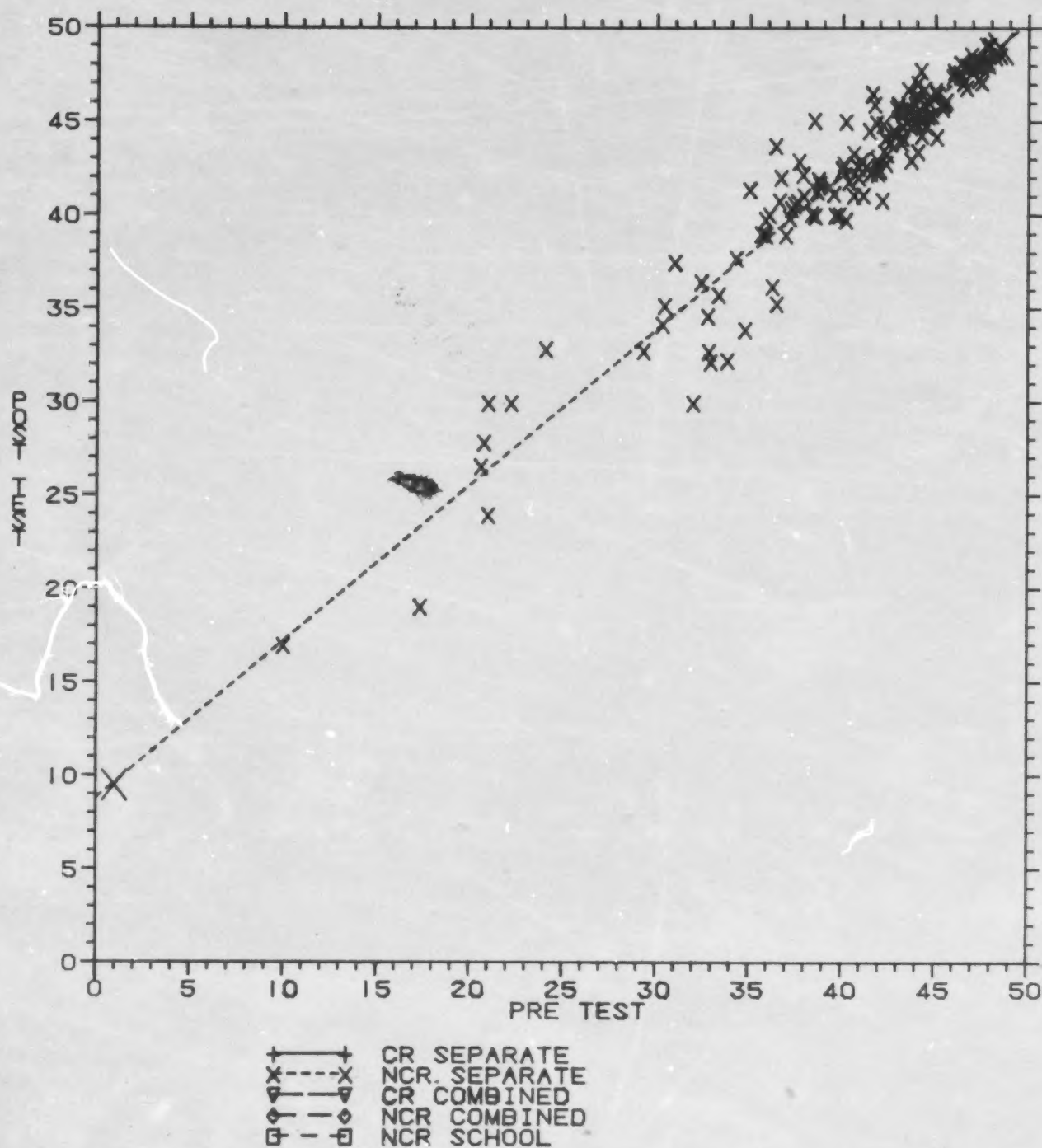


+-----+ CR SEPARATE
 x-----x NCR SEPARATE
 v-----v CR COMBINED
 o-----o NCR COMBINED
 □-----□ NCR SCHOOL

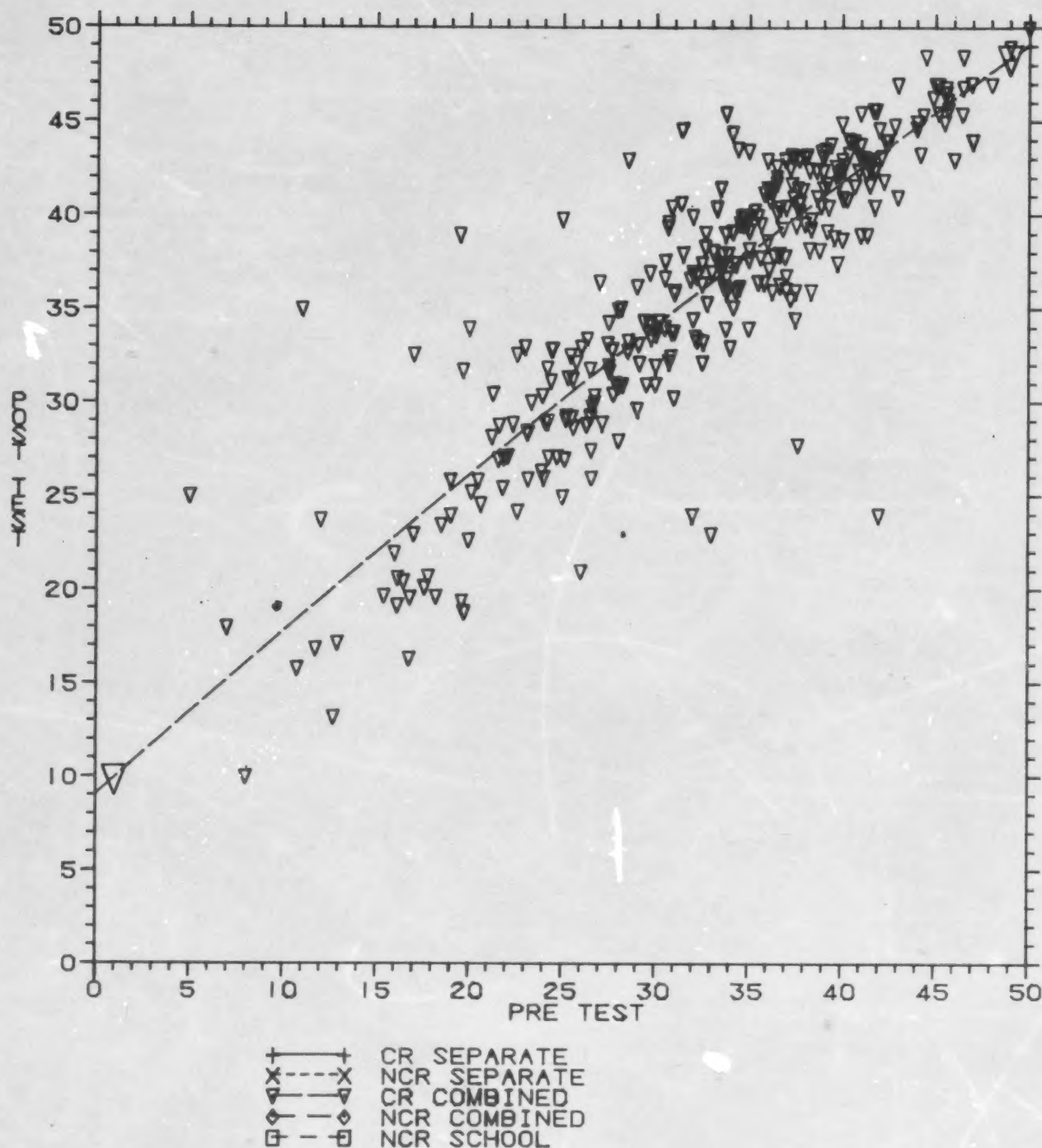
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT WORD KNOWLEDGE



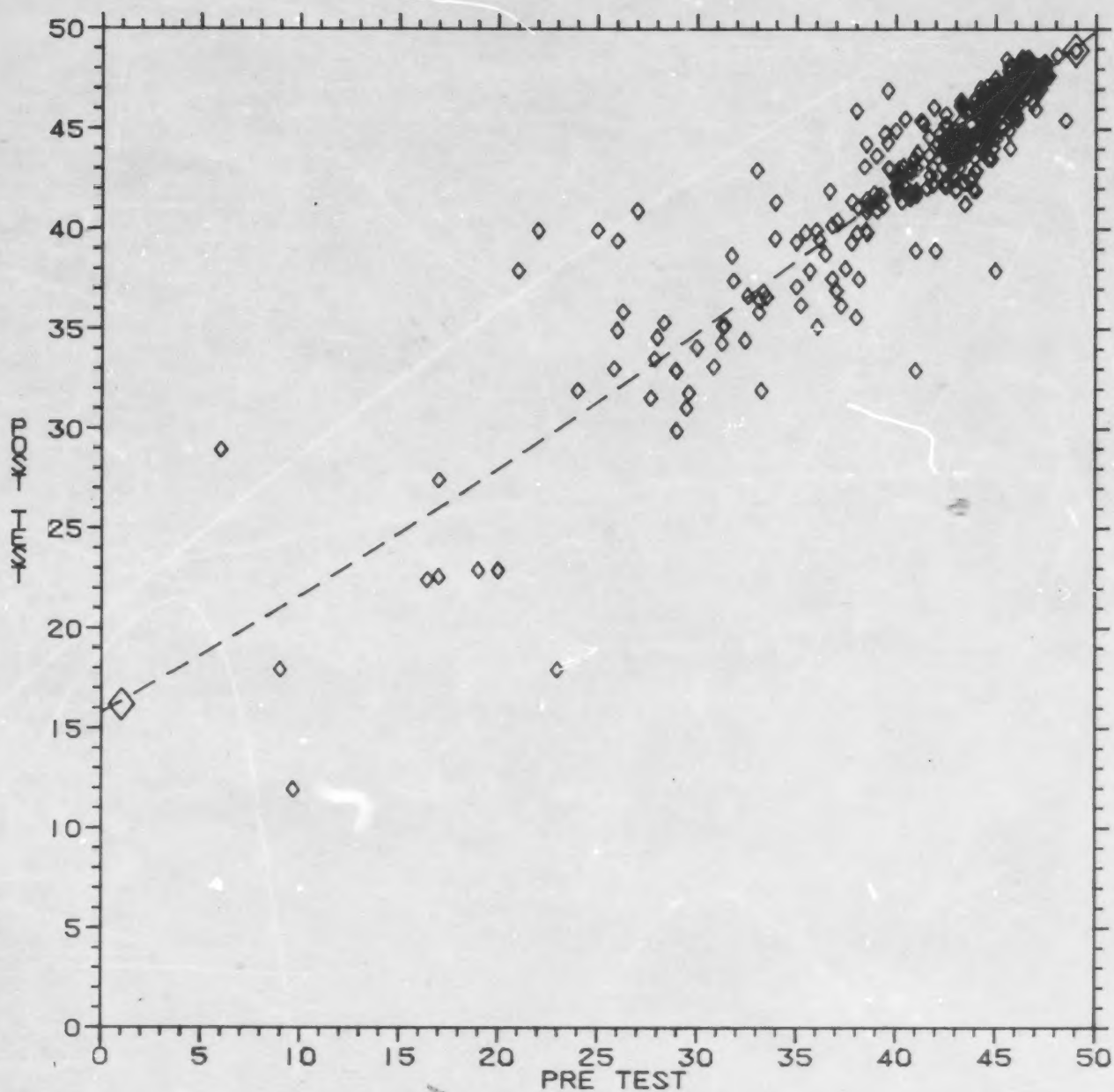
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 6, TEST IS MAT WORD KNOWLEDGE



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT WORD KNOWLEDGE

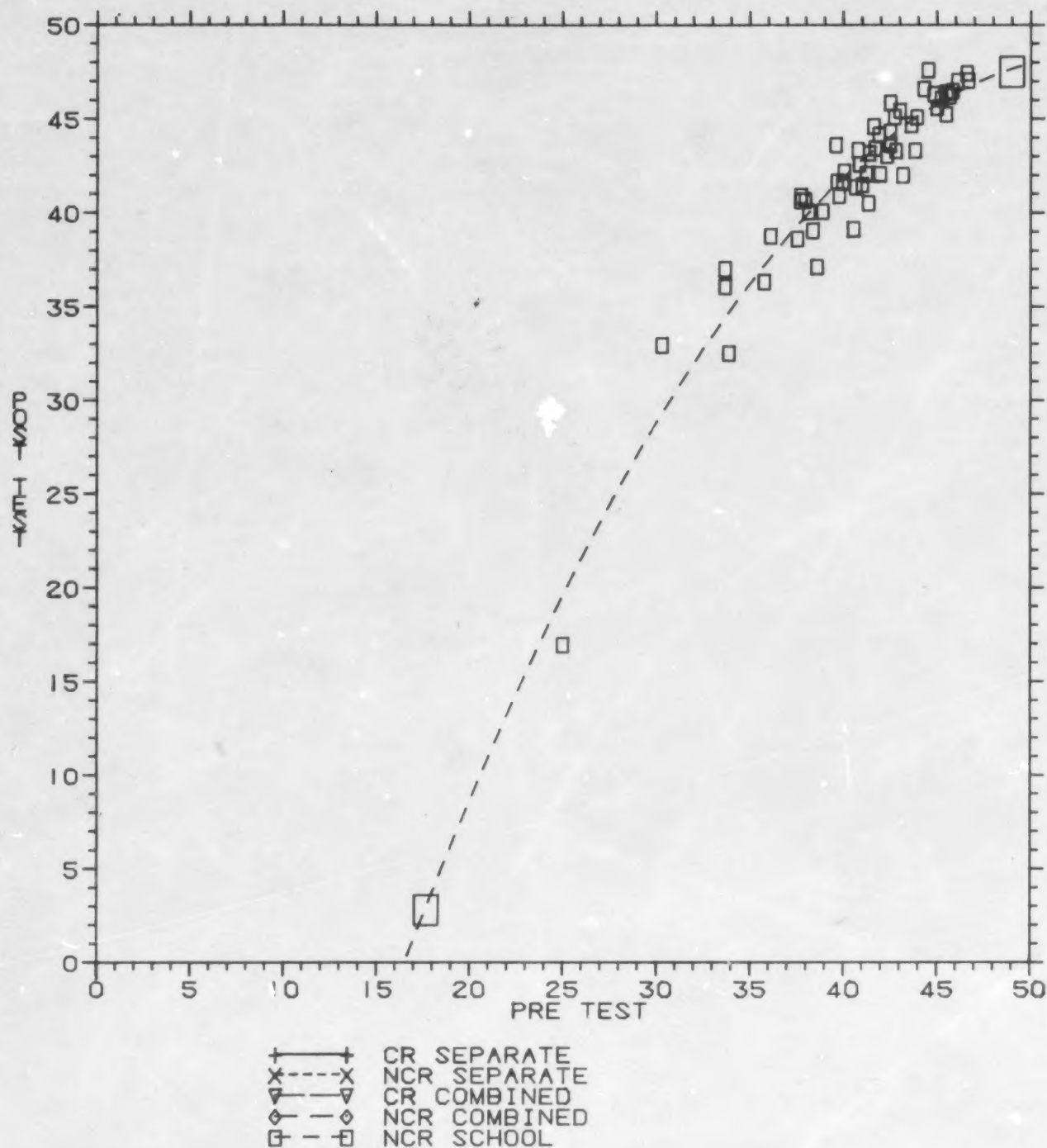


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6. TEST IS MAT WORD KNOWLEDGE

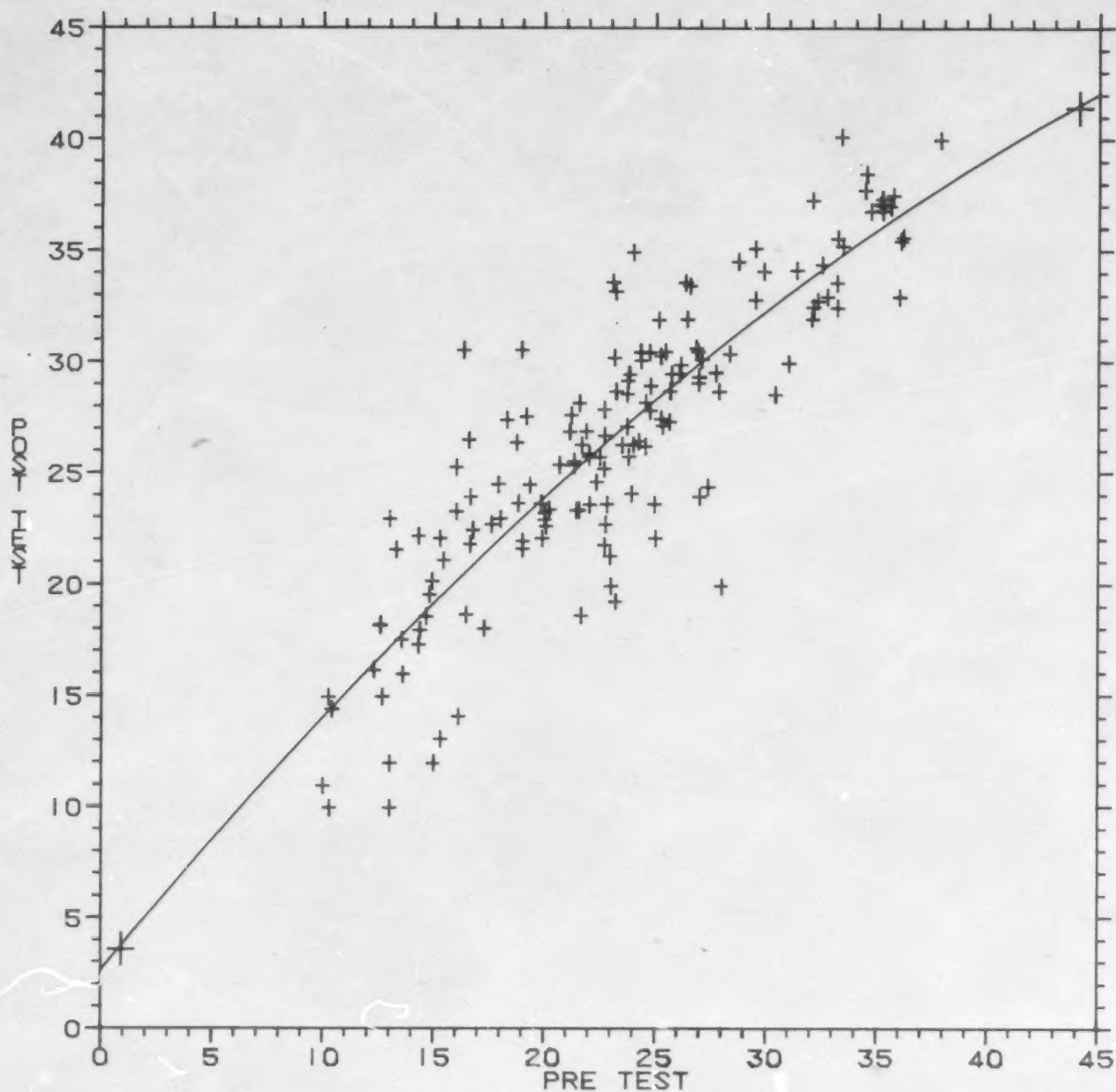


+-----+ CR SEPARATE
 x-----x NCR SEPARATE
 ▼-----▼ CR COMBINED
 ♦-----♦ NCR COMBINED
 □-----□ NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT WORD KNOWLEDGE

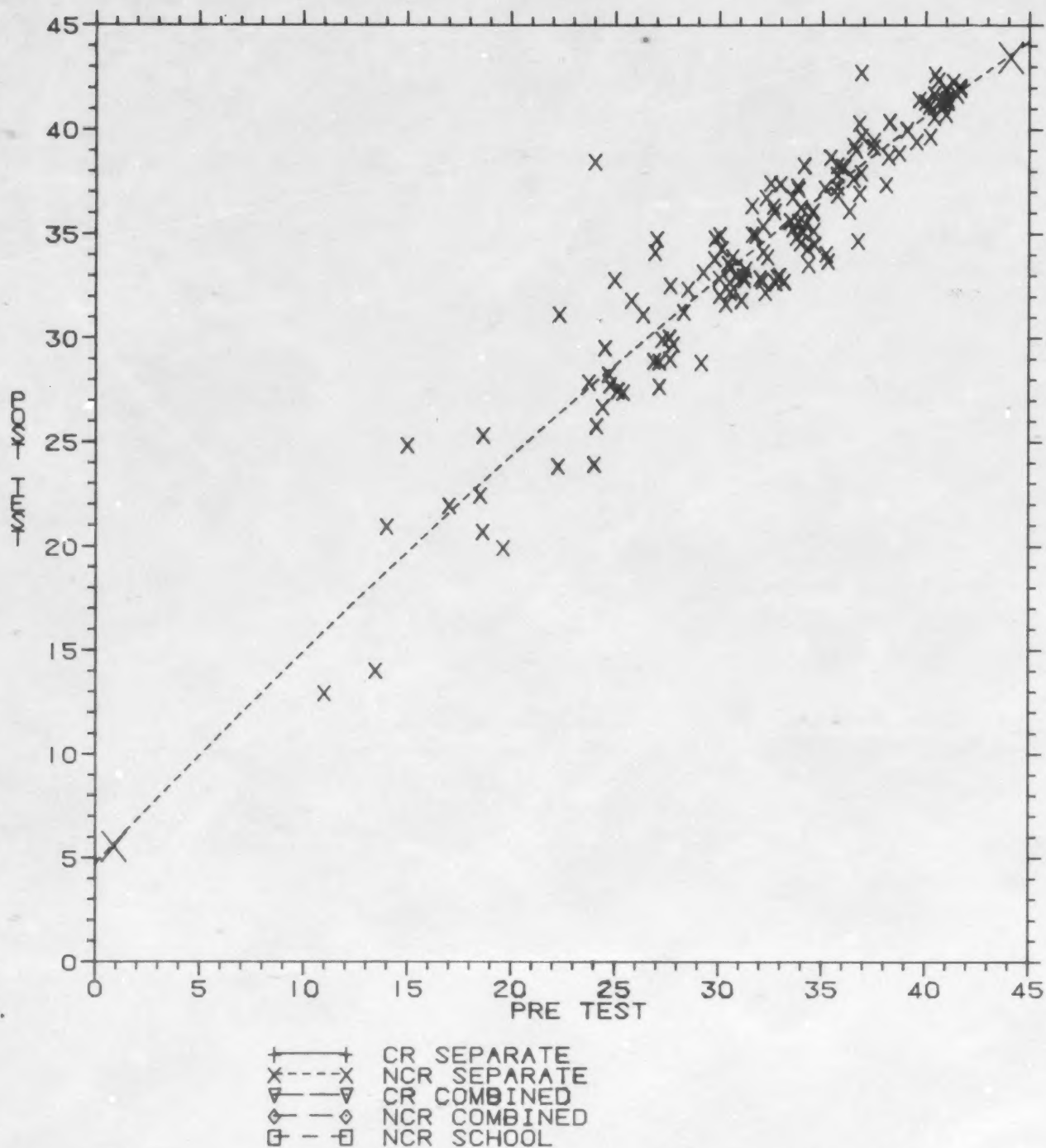


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6. TEST IS MAT READING

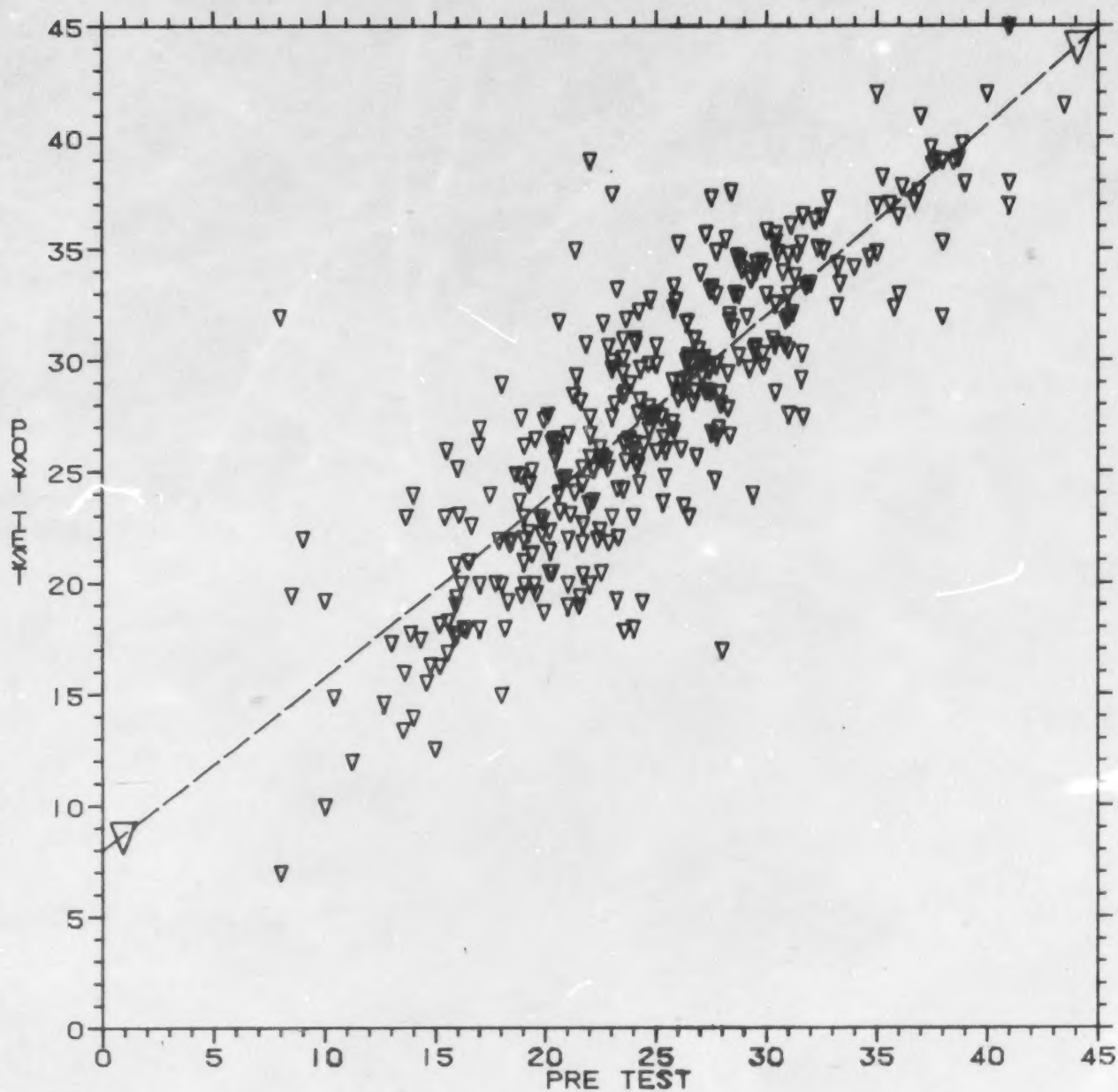


+	+	CR SEPARATE
x	x	NCR SEPARATE
▽	▽	CR COMBINED
◇	◇	NCR COMBINED
□	□	NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT READING

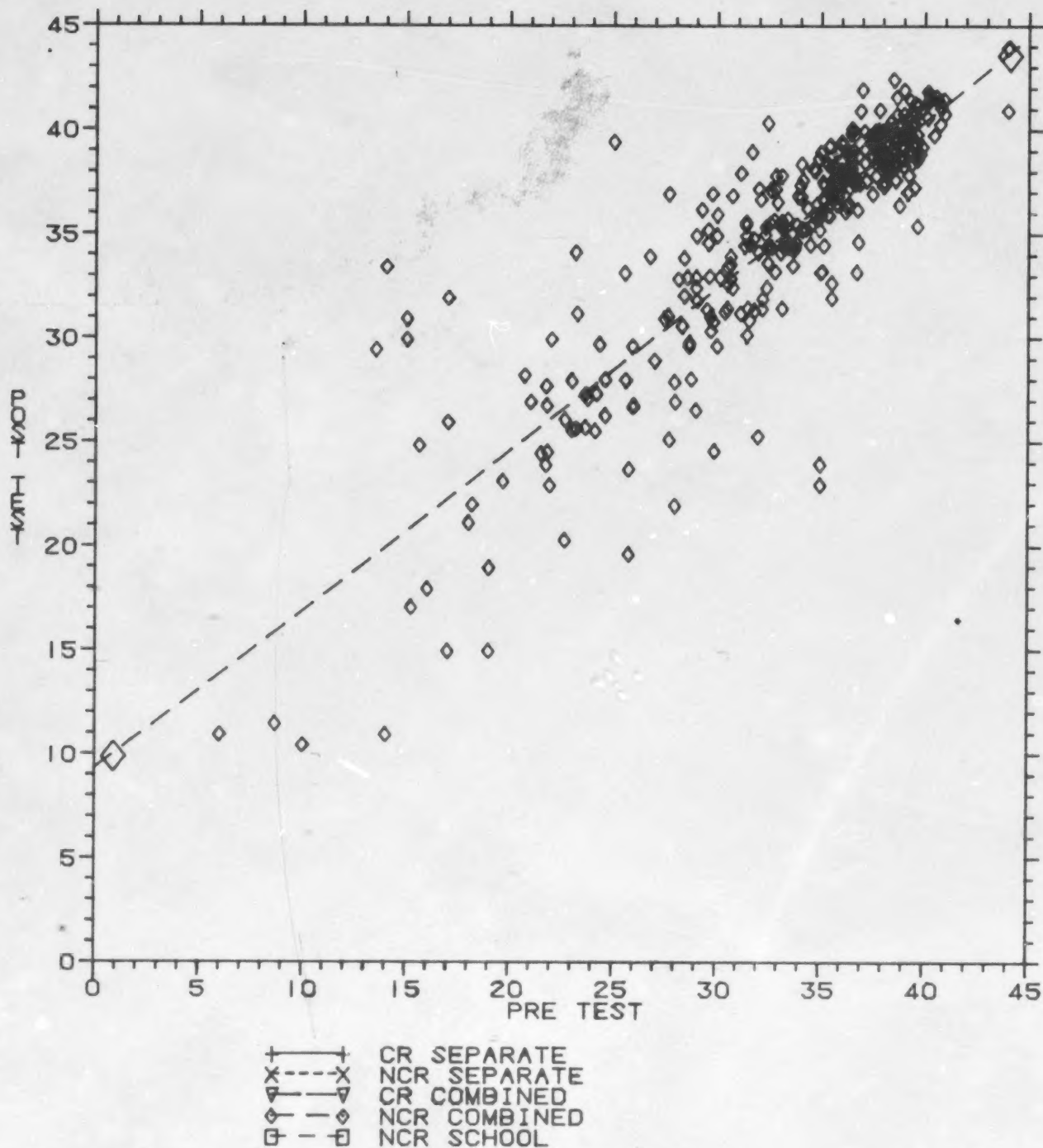


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT READING

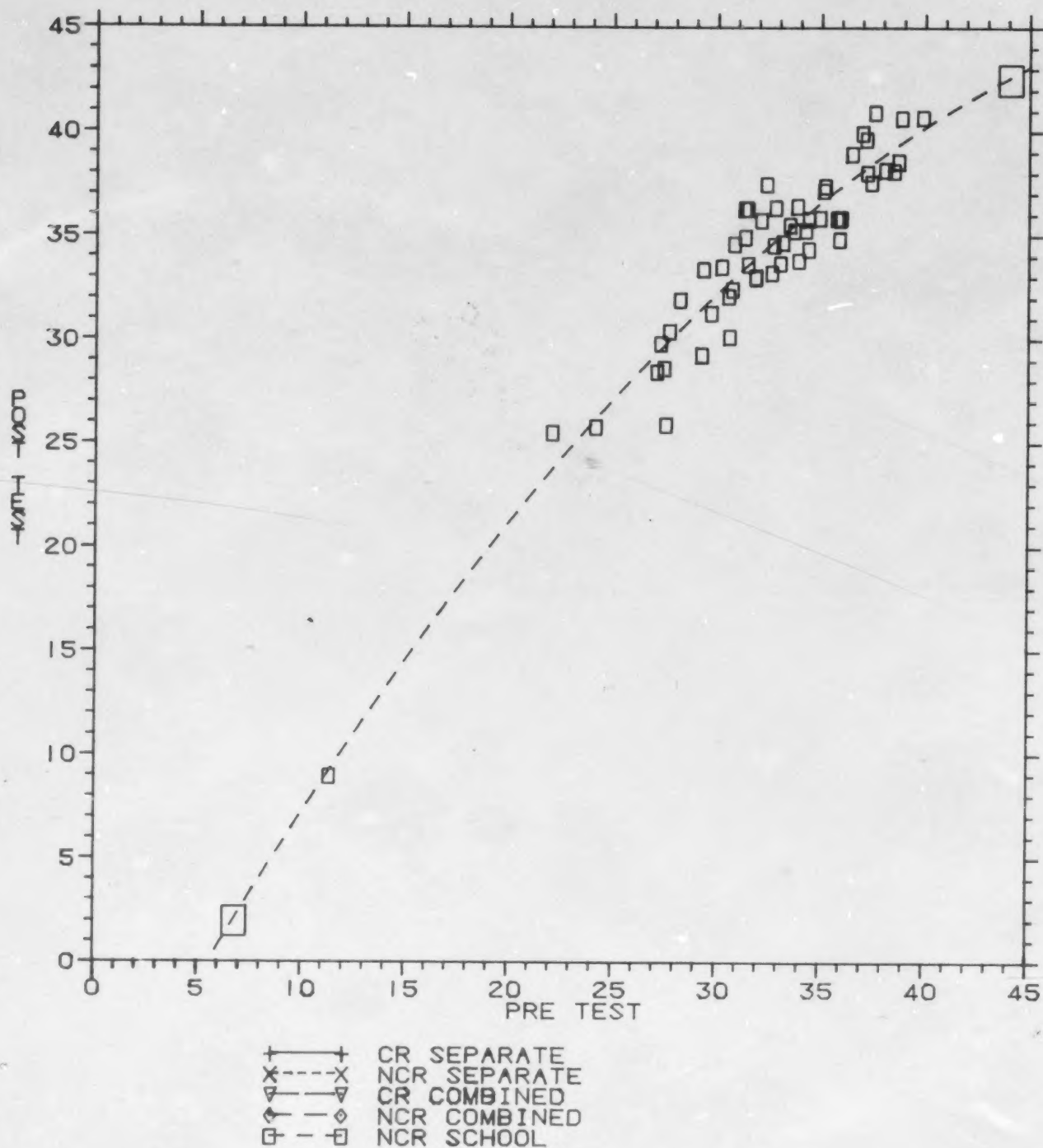


+ — + CR SEPARATE
 x — x NCR SEPARATE
 ▽ — ▽ CR COMBINED
 ◇ — ◇ NCR COMBINED
 □ — □ NCR SCHOOL

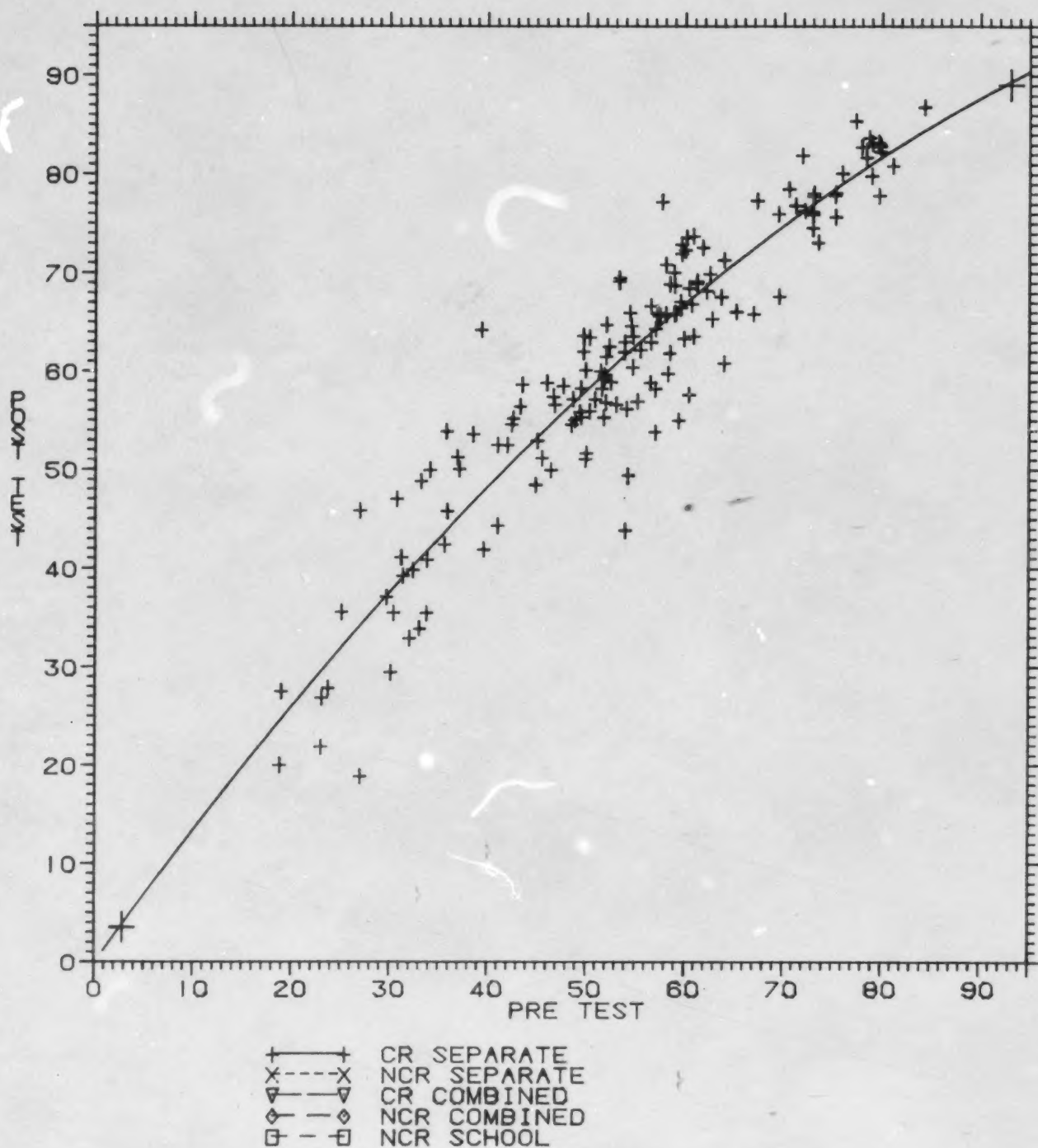
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT READING



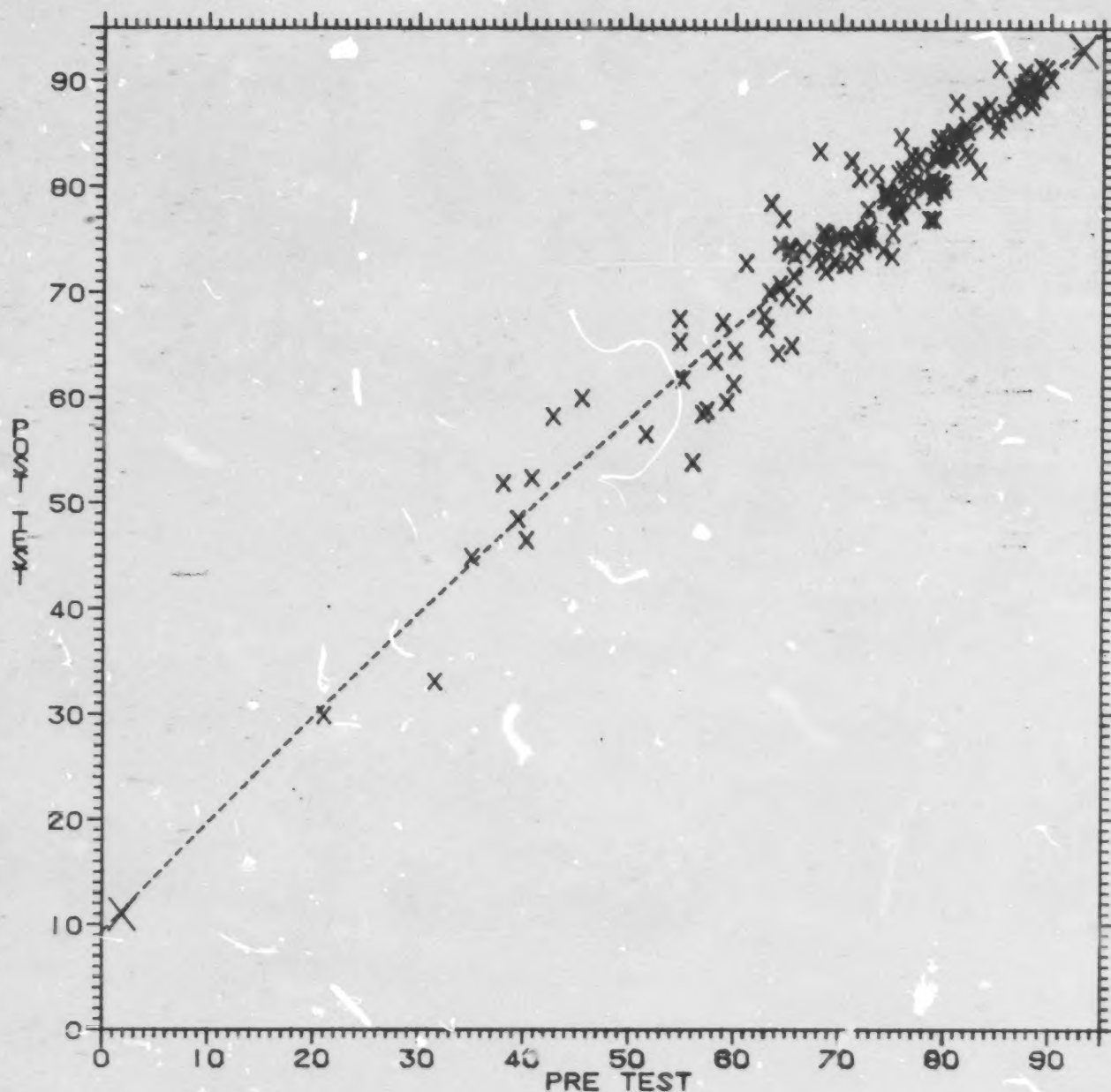
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 6, TEST IS MAT READING



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6. TEST IS MAT TOTAL

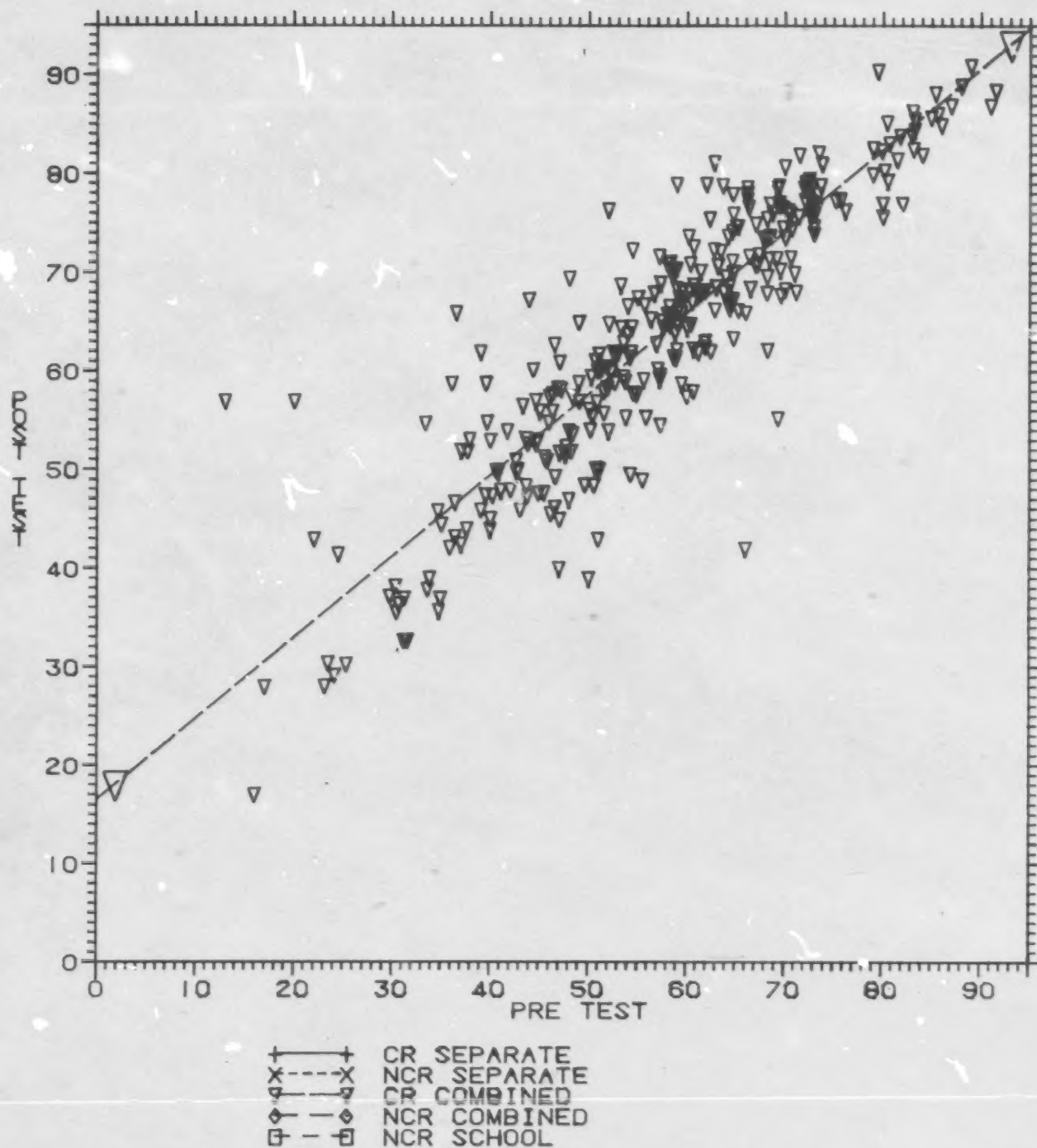


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6. TEST IS MAT TOTAL

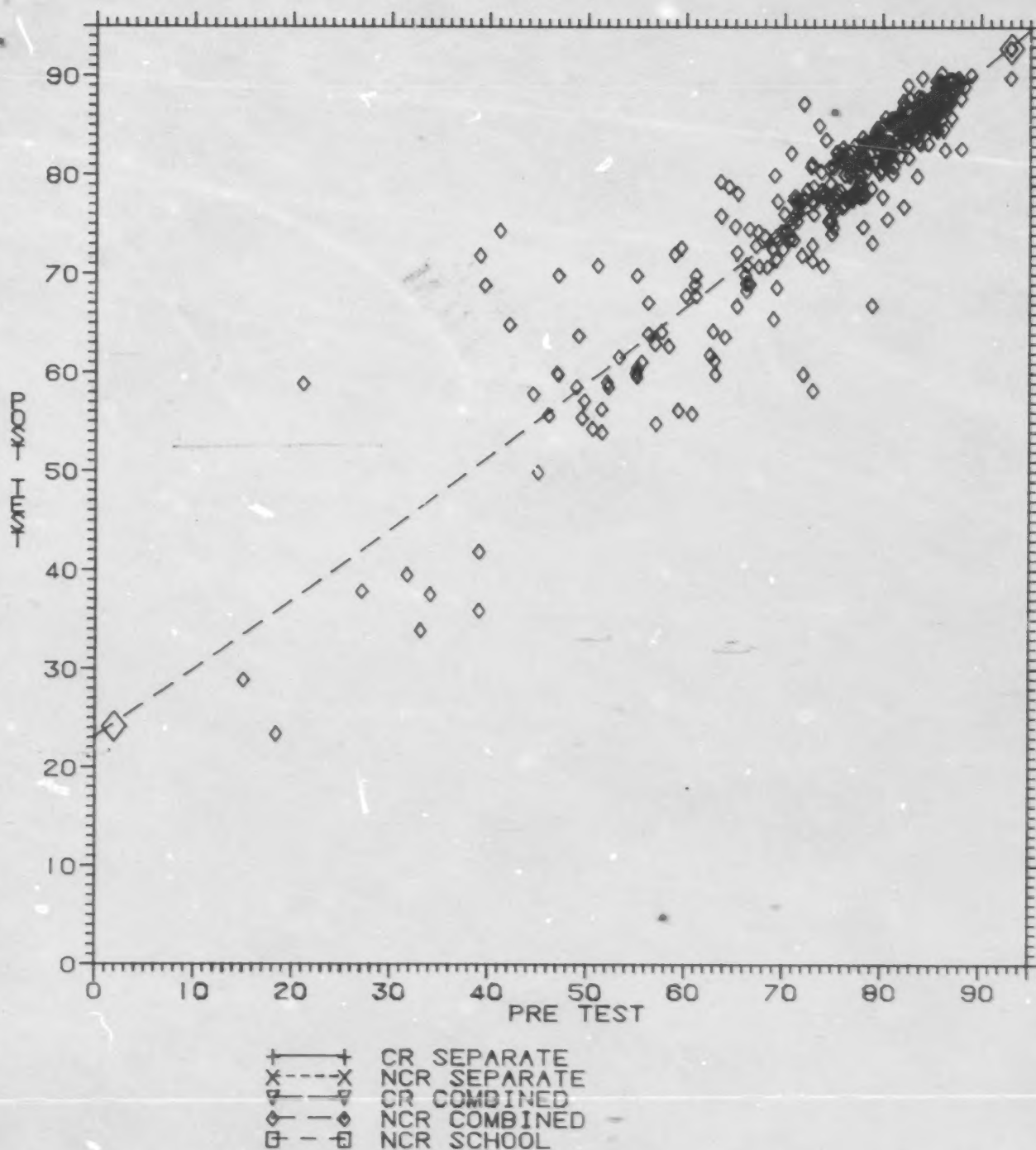


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 x---x NCR SEPARATE
 ▽---▽ CR COMBINED
 ◇---◇ NCR COMBINED
 □---□ NCR SCHOOL

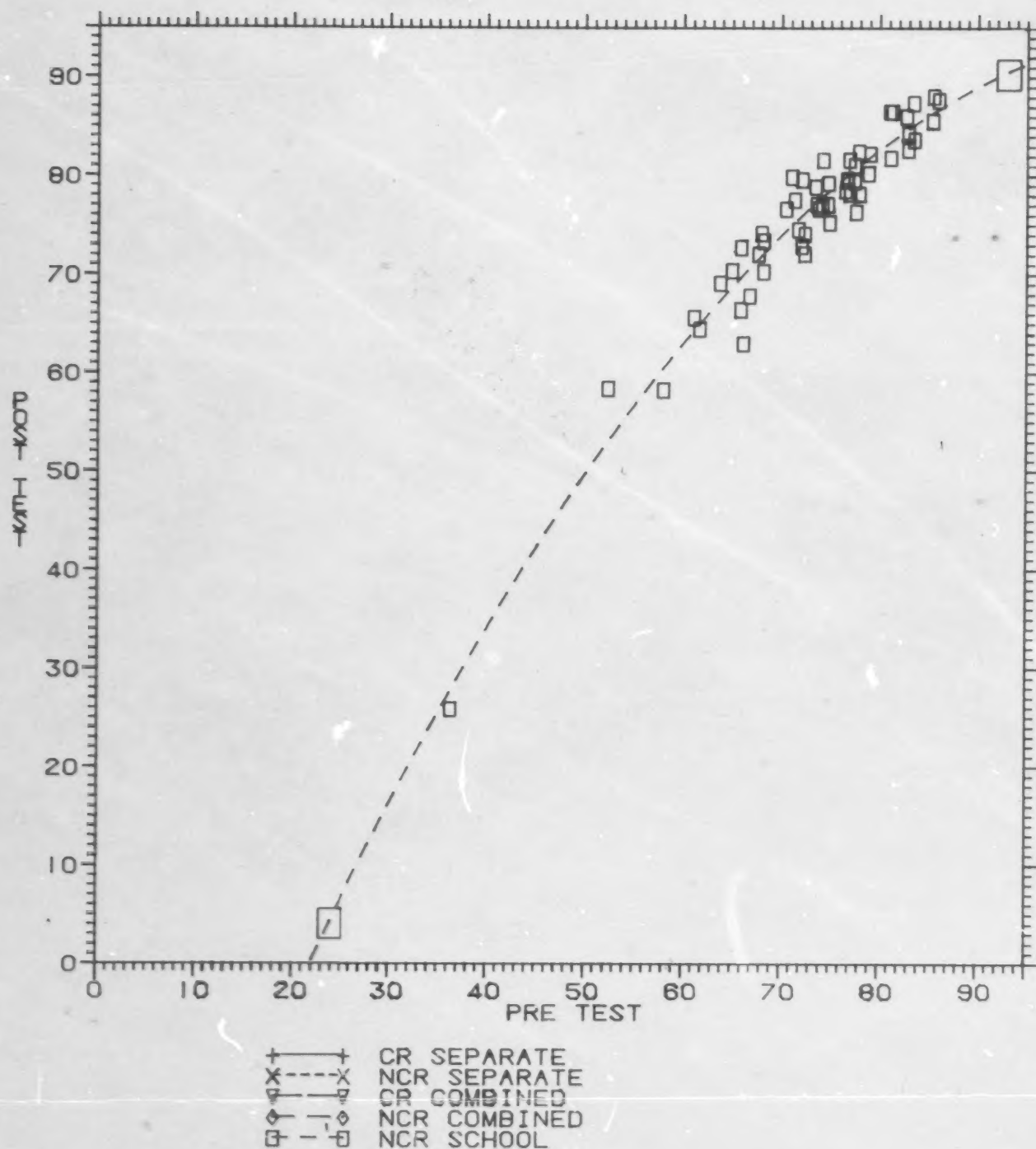
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
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 GRADE 6, TEST IS MAT TOTAL



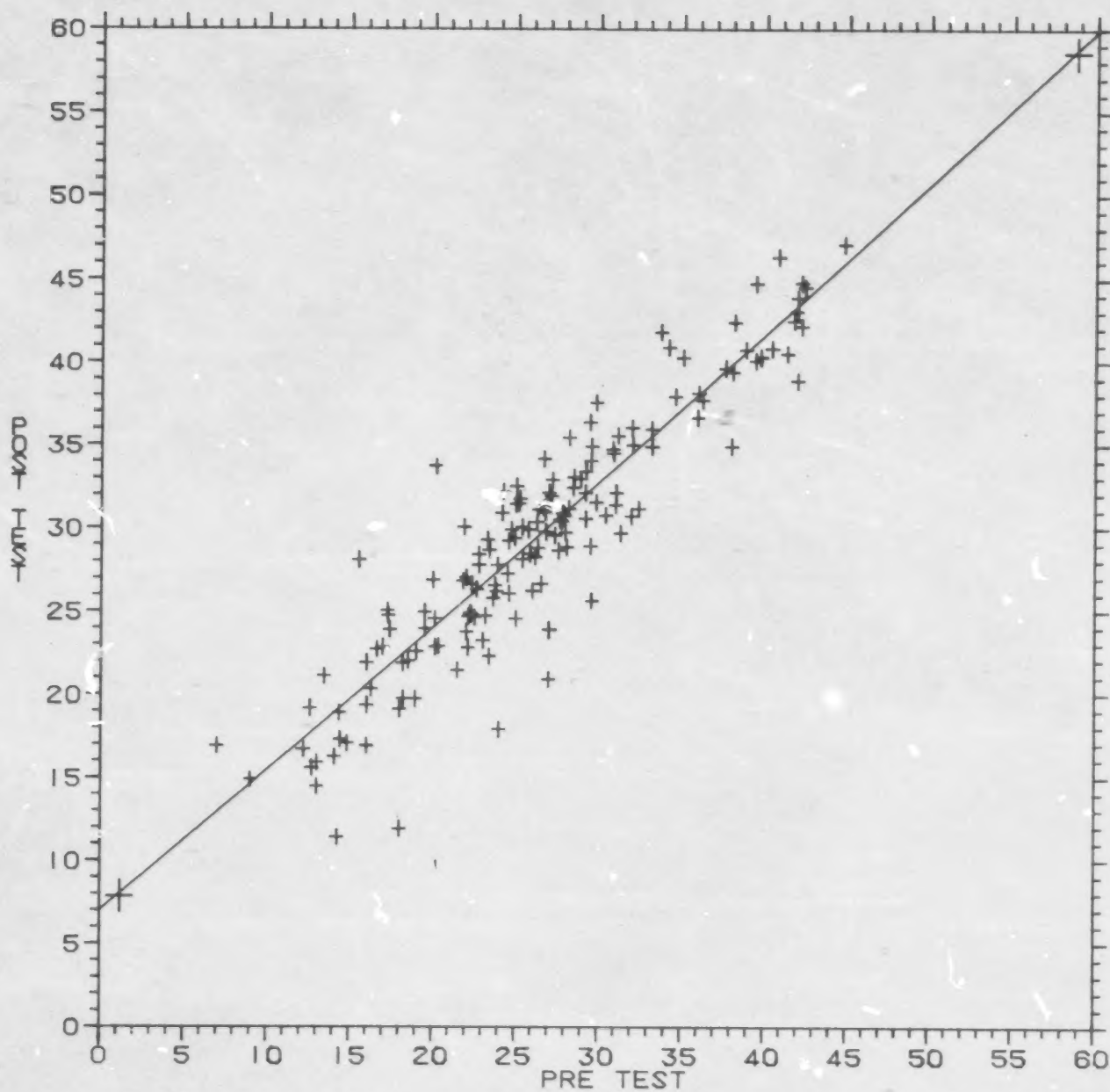
COMPENSATORY READING - PHASE 2
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 GRADE 6, TEST IS MAT TOTAL



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT TOTAL

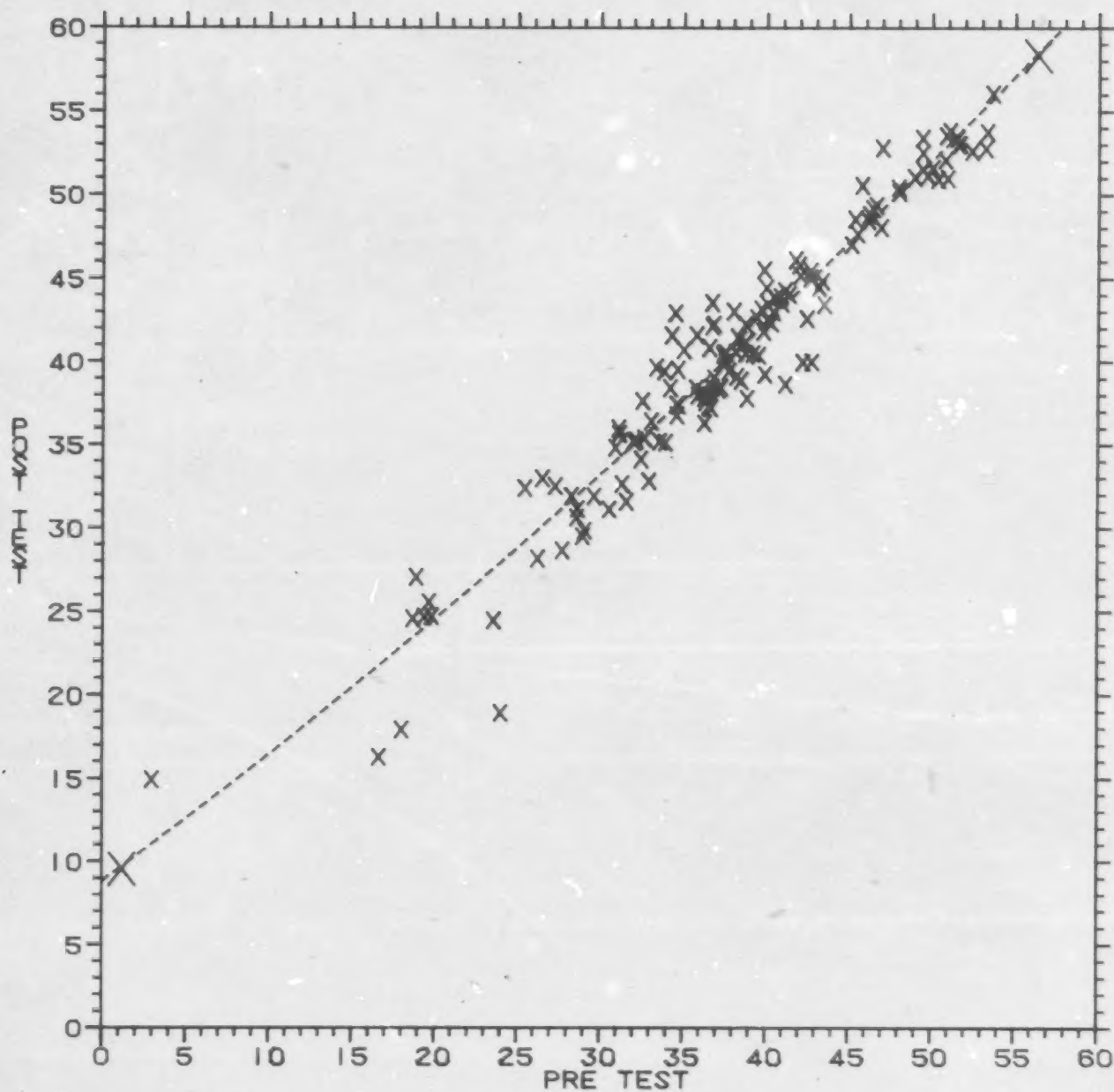


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS STEP



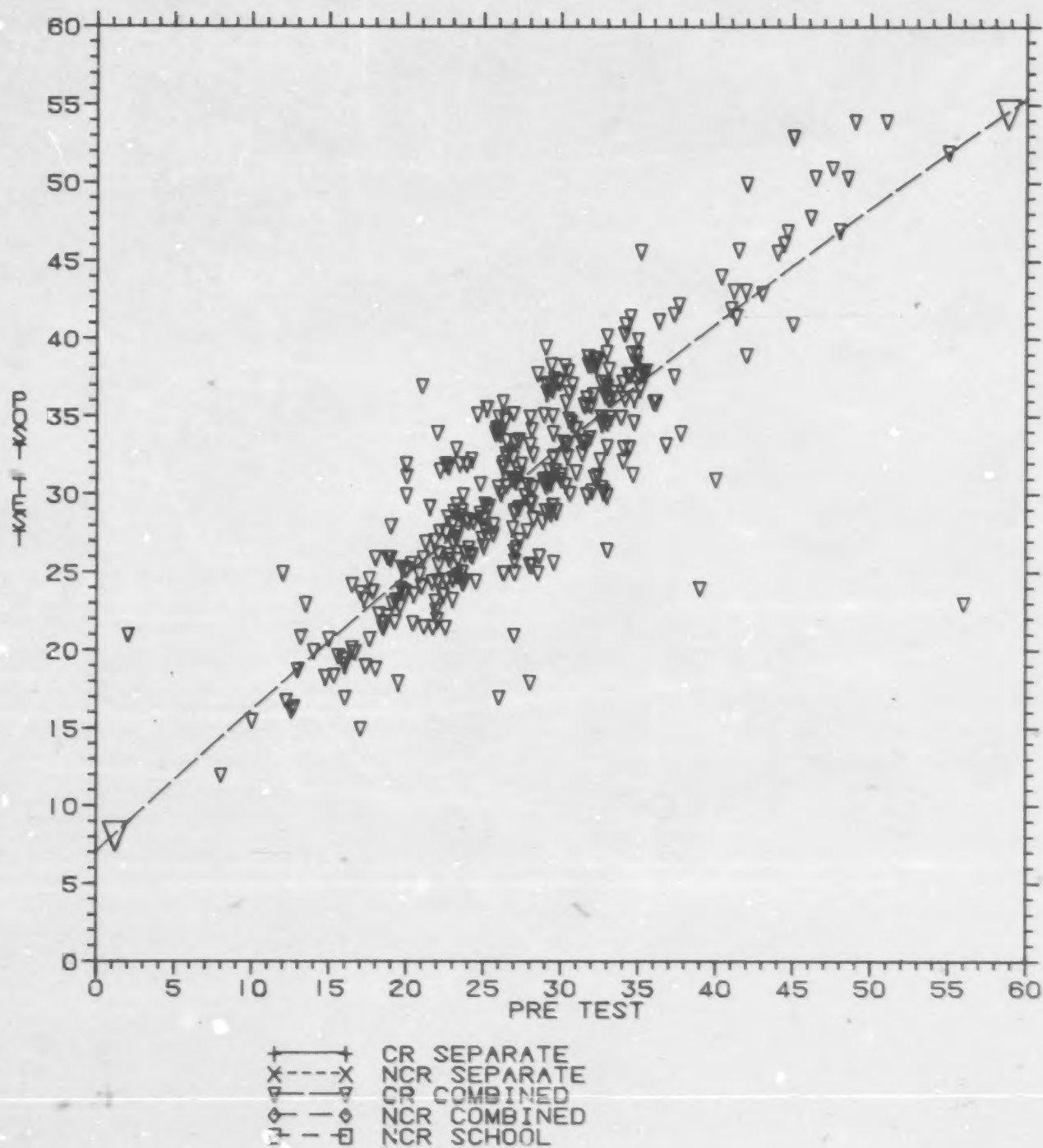
+---+ CR SEPARATE
 x---x NCR SEPARATE
 v---v CR COMBINED
 o---o NCR COMBINED
 □---□ NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS STEP

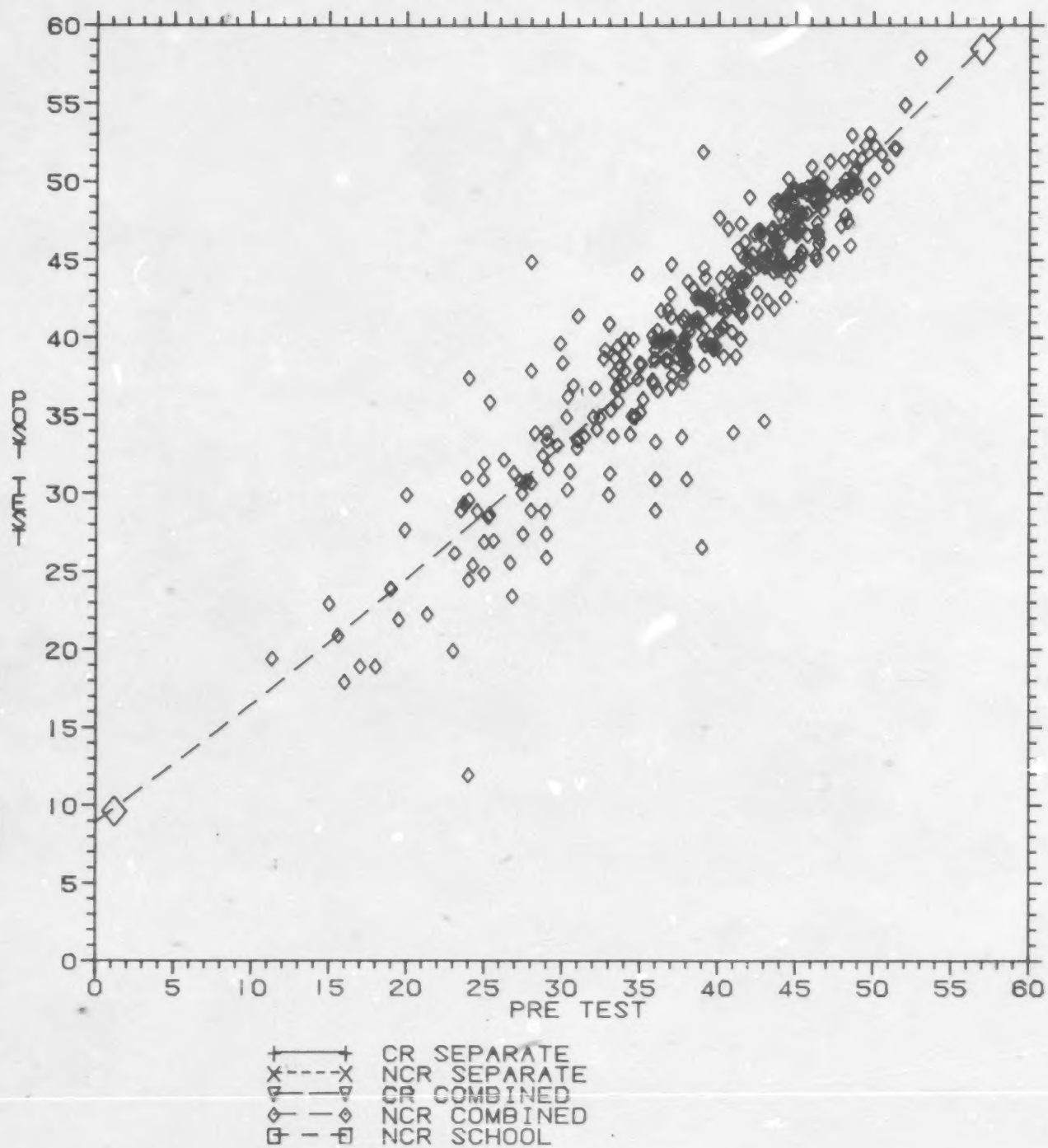


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 x-----x NCR SEPARATE
 v-----v CR COMBINED
 o-----o NCR COMBINED
 □-----□ NCR SCHOOL

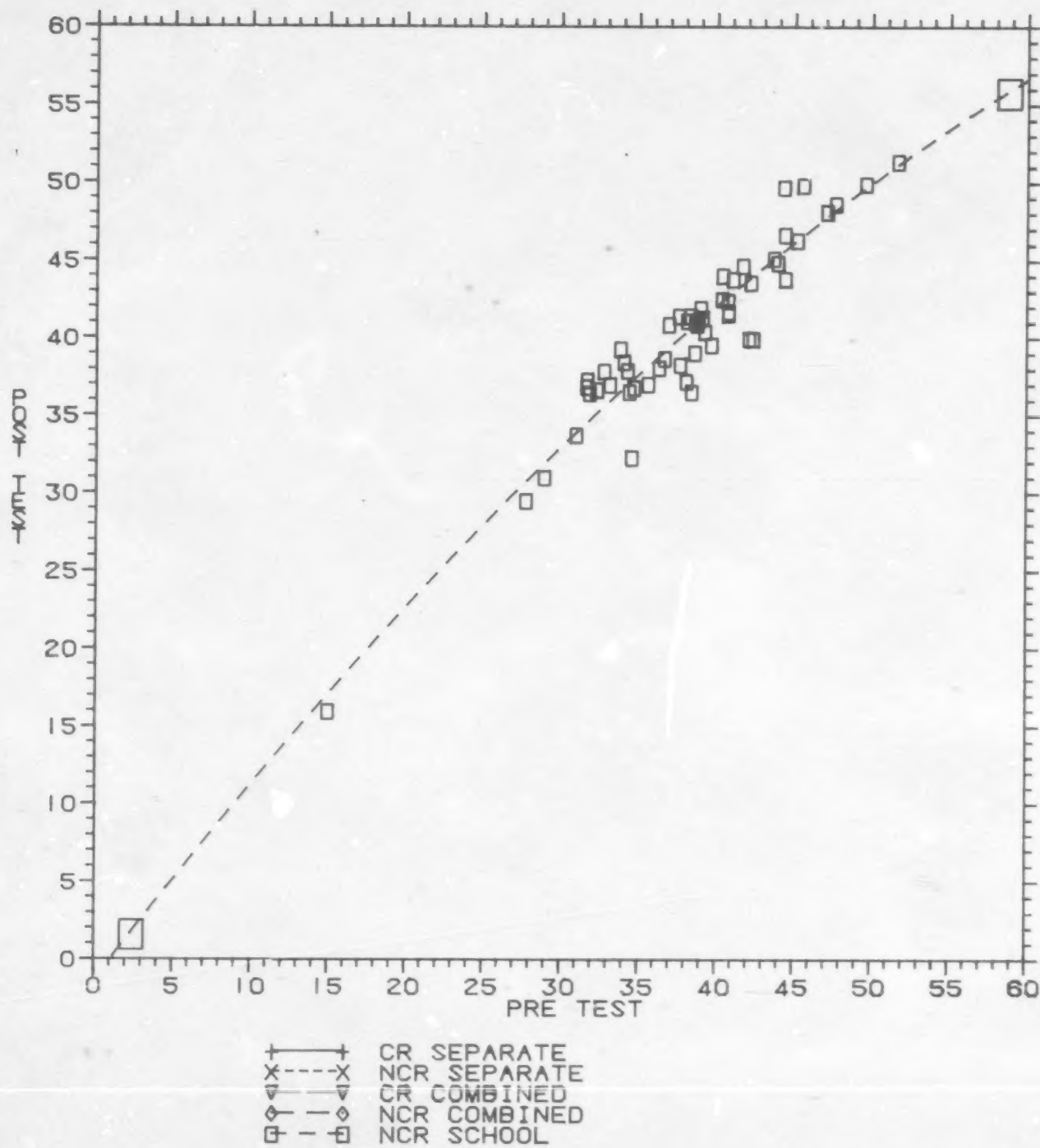
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS STEP



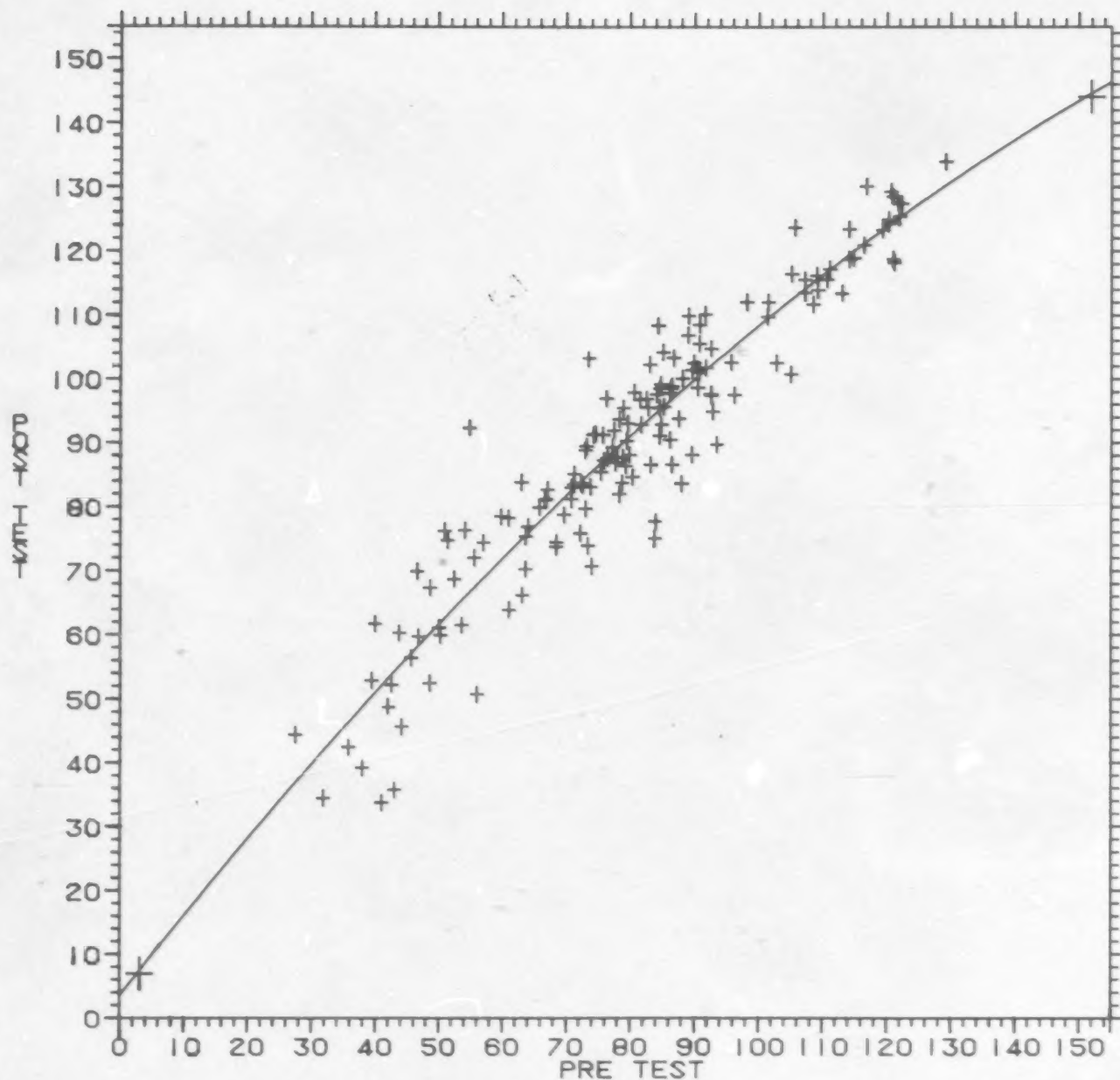
COMPENSATORY READING - PHASE 2
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 GRADE 6, TEST IS STEP



COMPENSATORY READING - PHASE 2
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 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6. TEST IS STEP

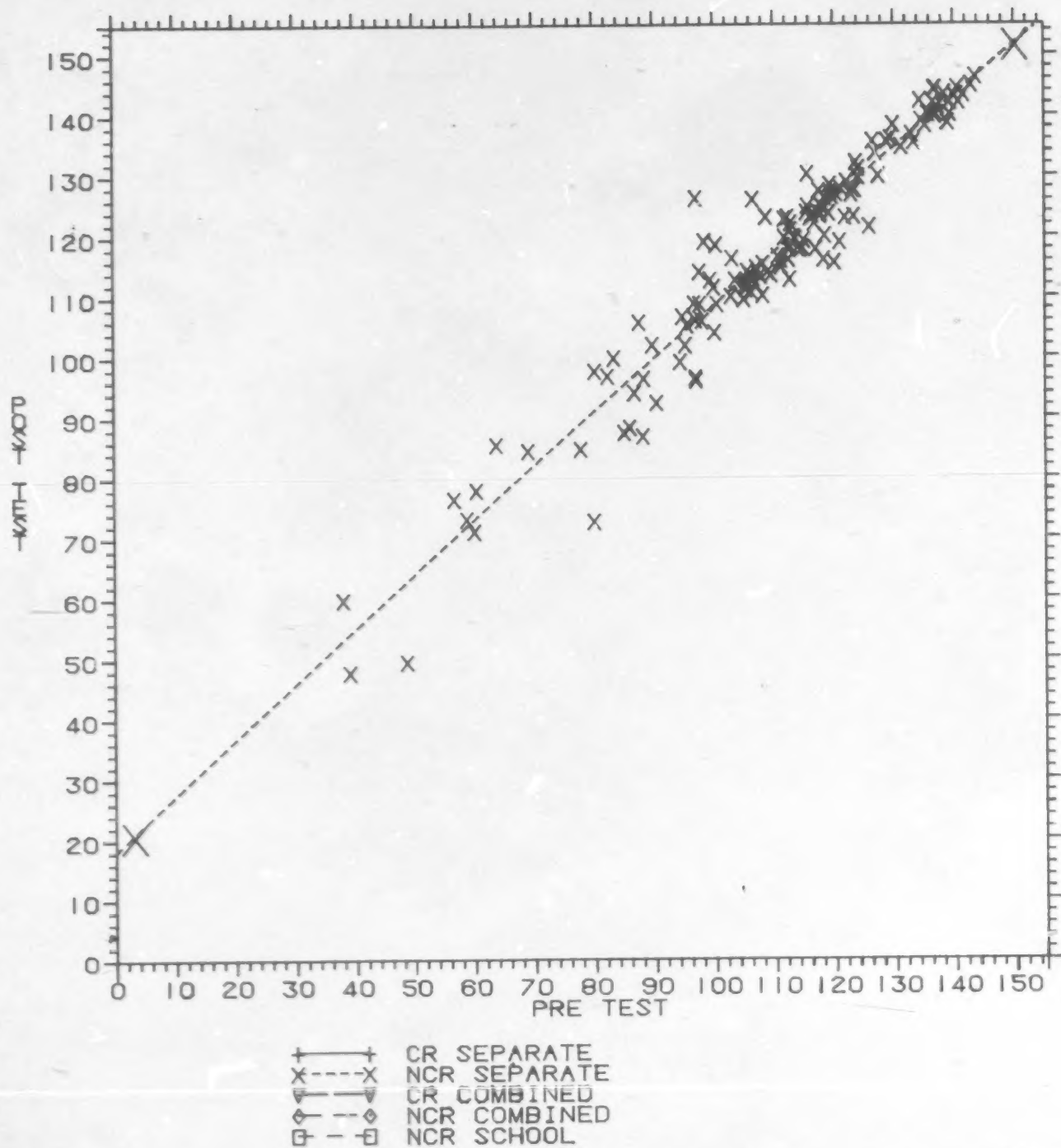


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6. TEST IS TOTAL

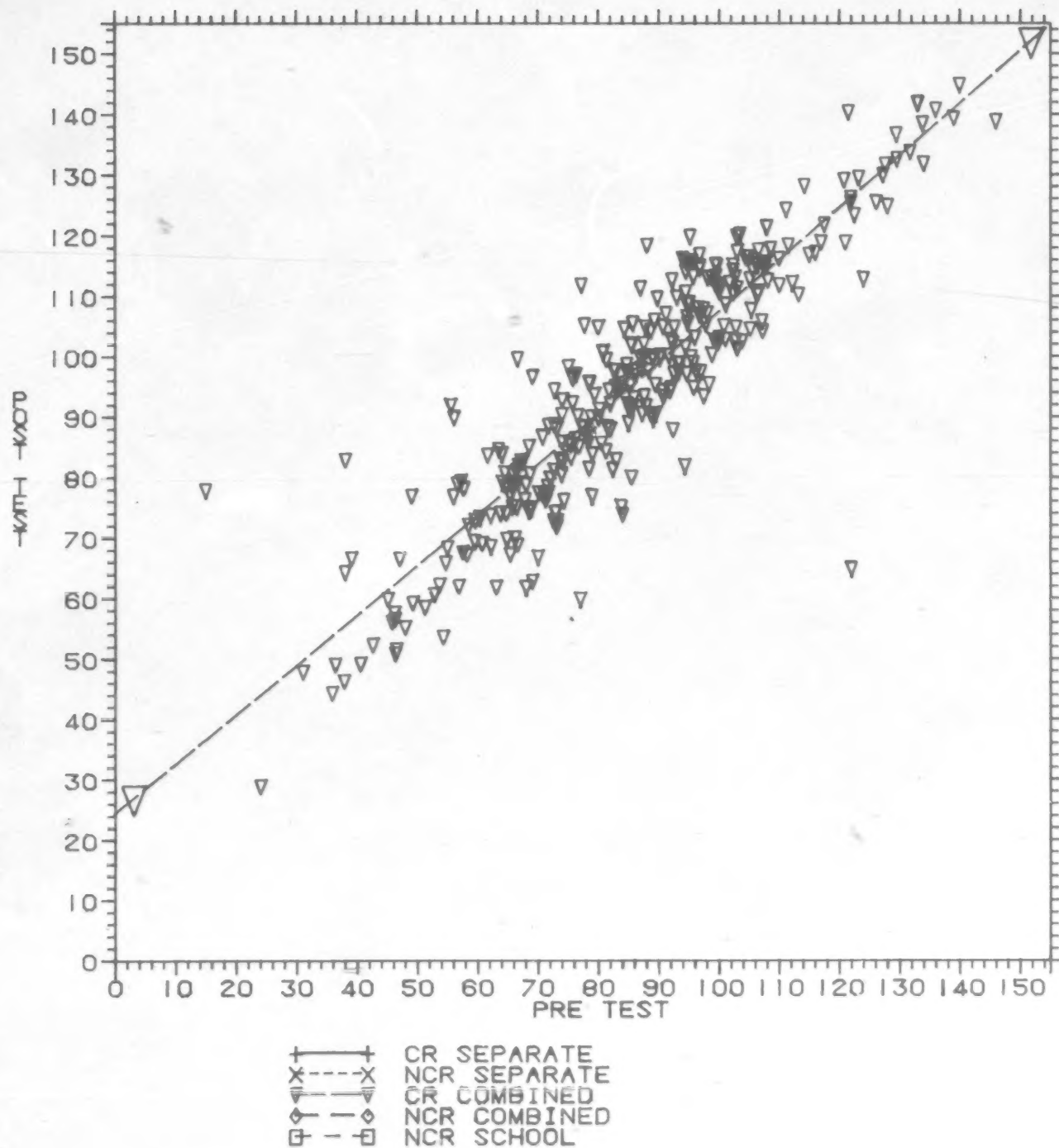


+ — + CR SEPARATE
 x — x NCR SEPARATE
 Δ — Δ CR COMBINED
 ◊ — ◊ NCR COMBINED
 ◻ — ◻ NCR SCHOOL

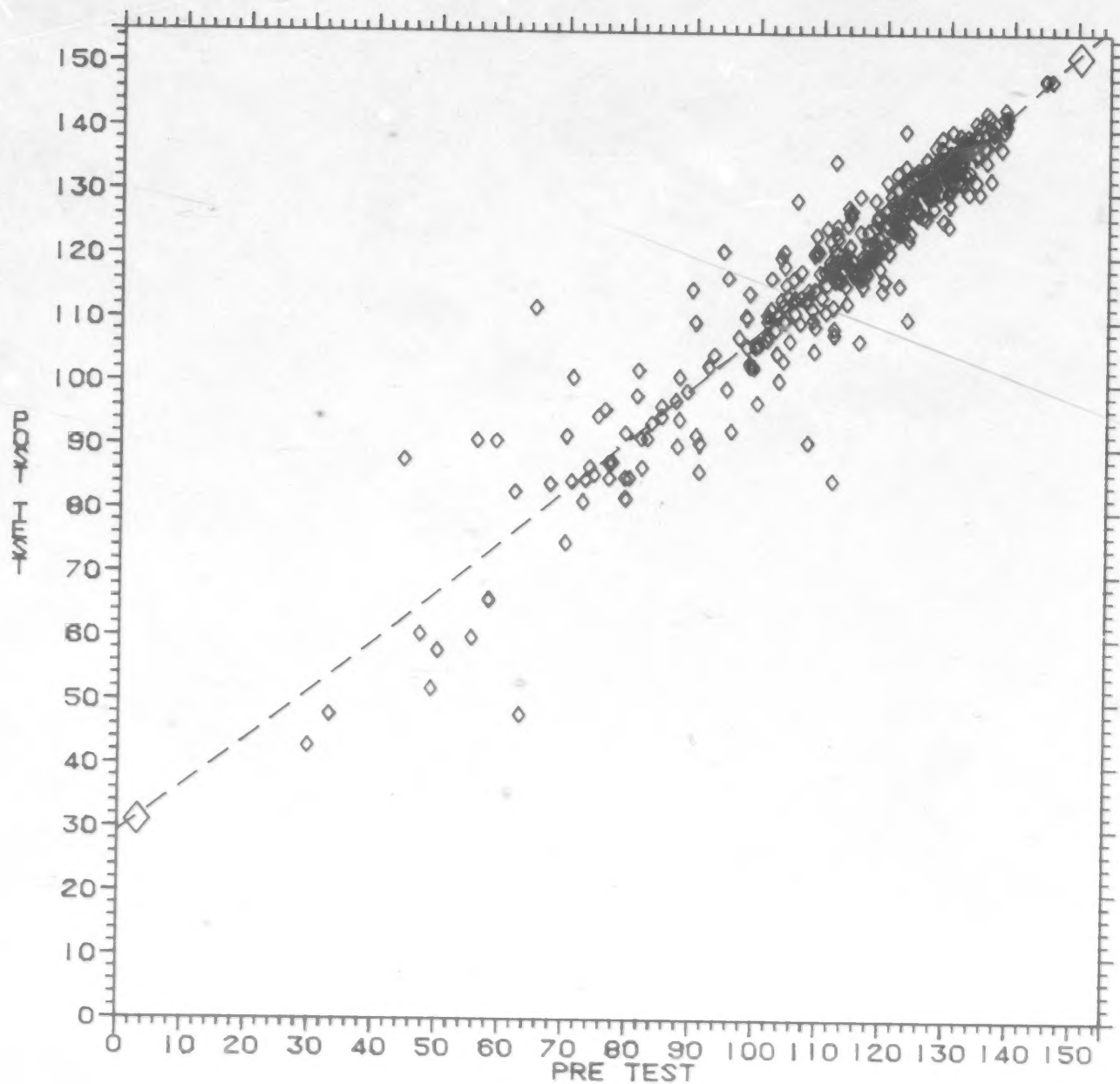
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COMPENSATORY READING - PHASE 2
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 GRADE 6, TEST IS TOTAL

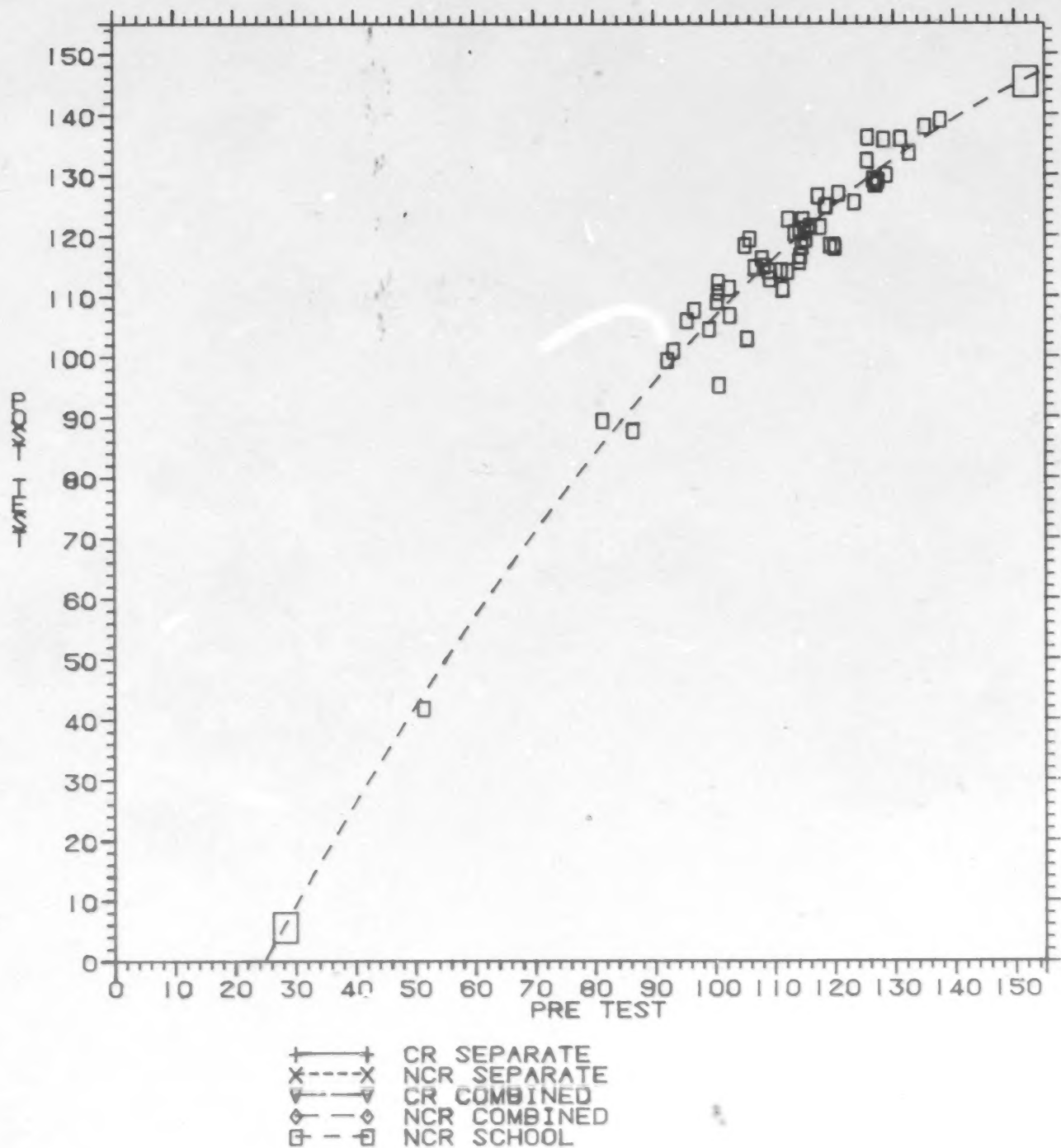


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS TOTAL

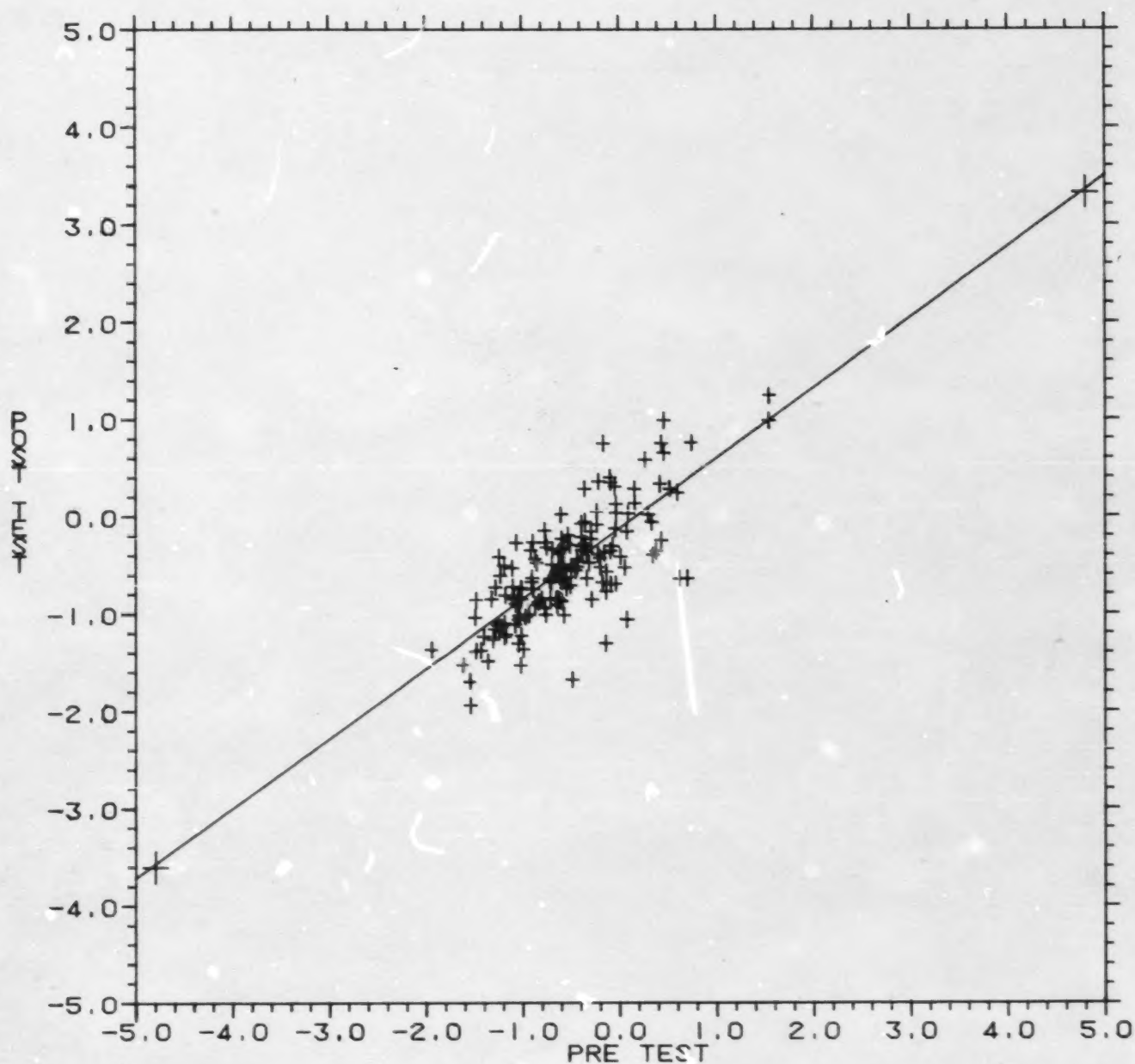


+	+	CR SEPARATE
x	x	NCR SEPARATE
▽	▽	CR COMBINED
◇	◇	NCR COMBINED
□	□	NCR SCHOOL

COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS TOTAL

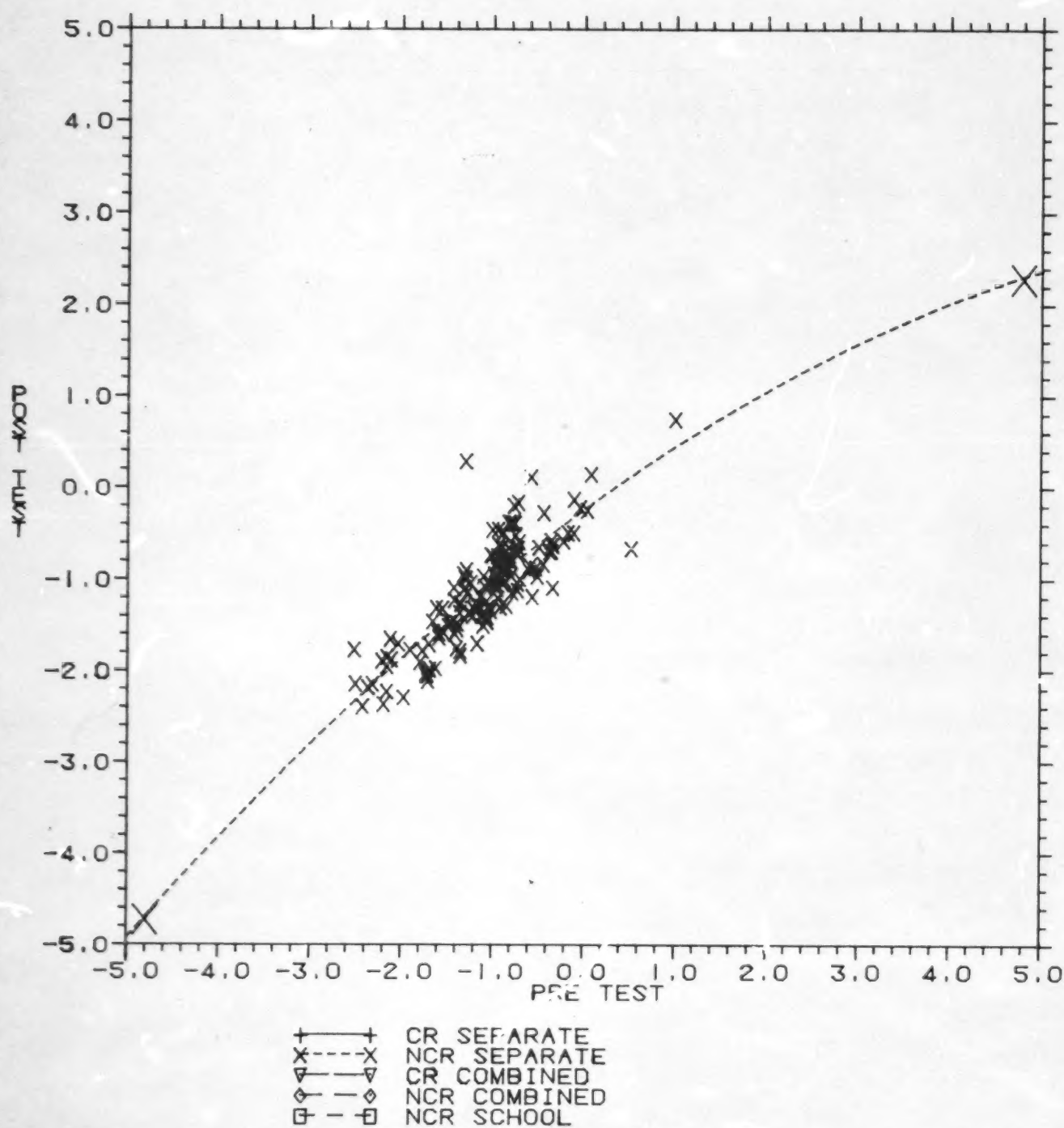


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS ATTITUDE

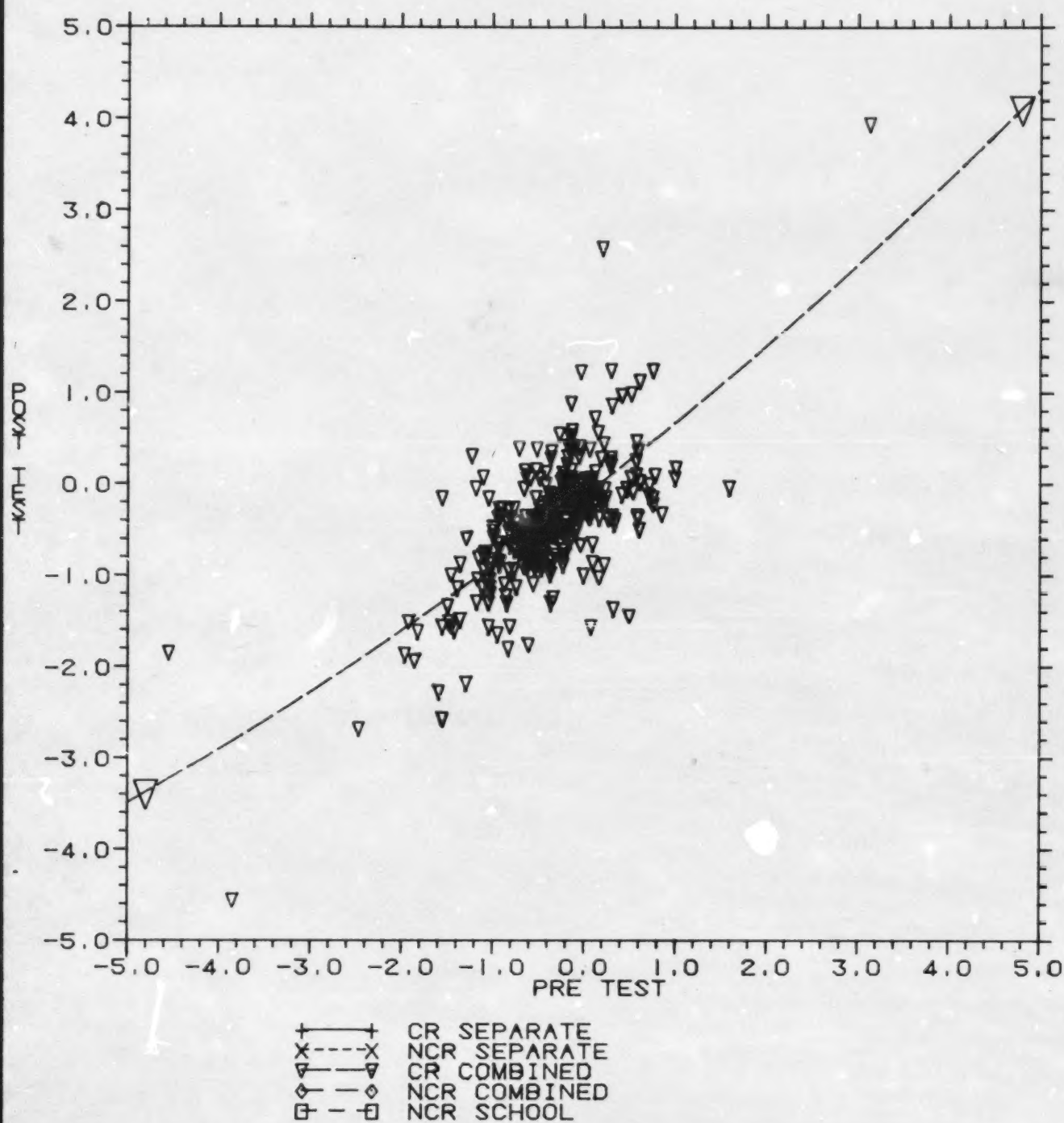


+ — + CR SEPARATE
 x — x NCR SEPARATE
 v — v CR COMBINED
 o — o NCR COMBINED
 □ — □ NCR SCHOOL

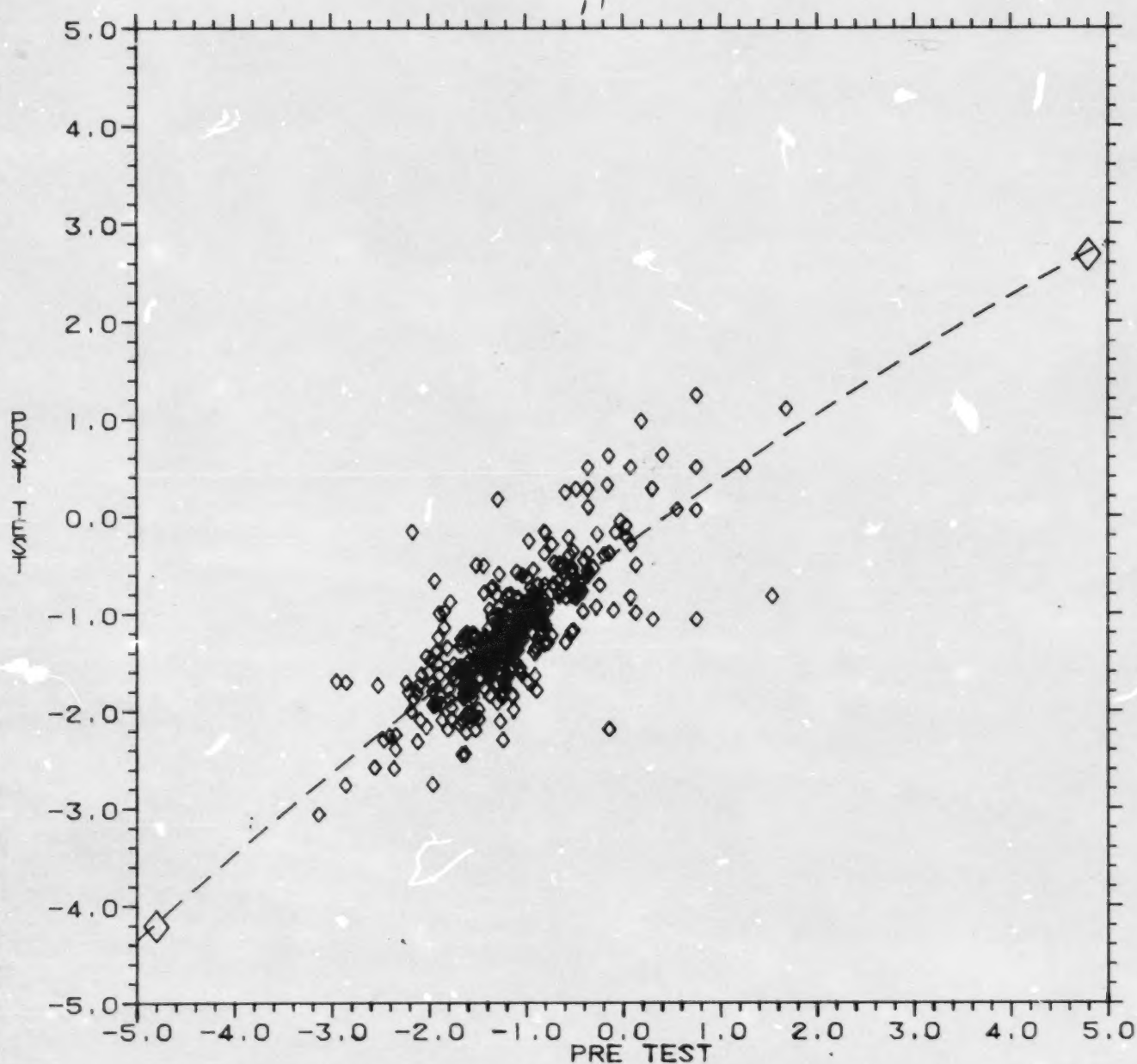
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 GRADE 6, TEST IS ATTITUDE



COMPENSATORY READING - PHASE 2
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 GRADE 6, TEST IS ATTITUDE

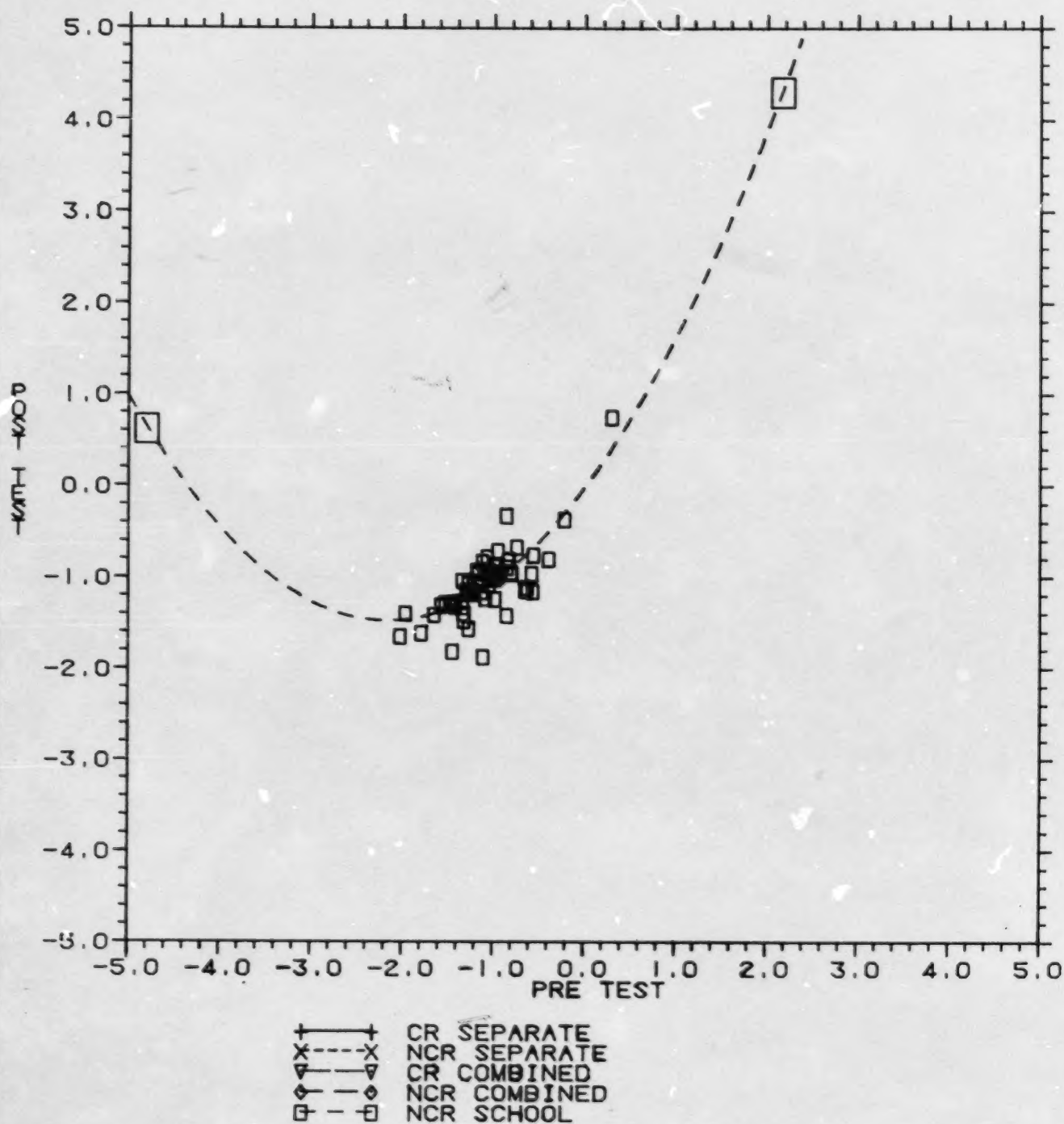


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 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS ATTITUDE

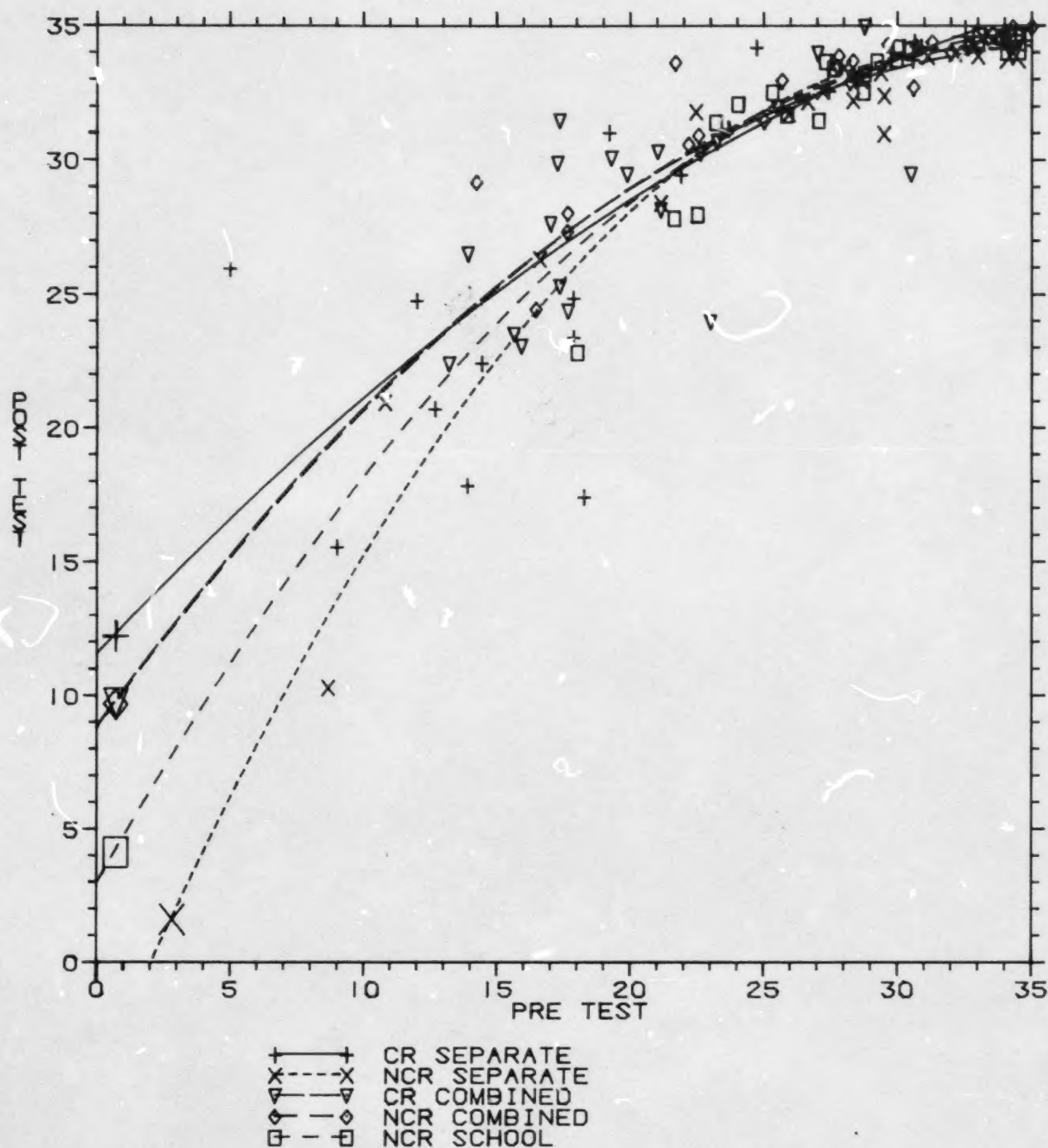


+---+ CR SEPARATE
 x---x NCR SEPARATE
 v---v CR COMBINED
 o---o NCR COMBINED
 □---□ NCR SCHOOL

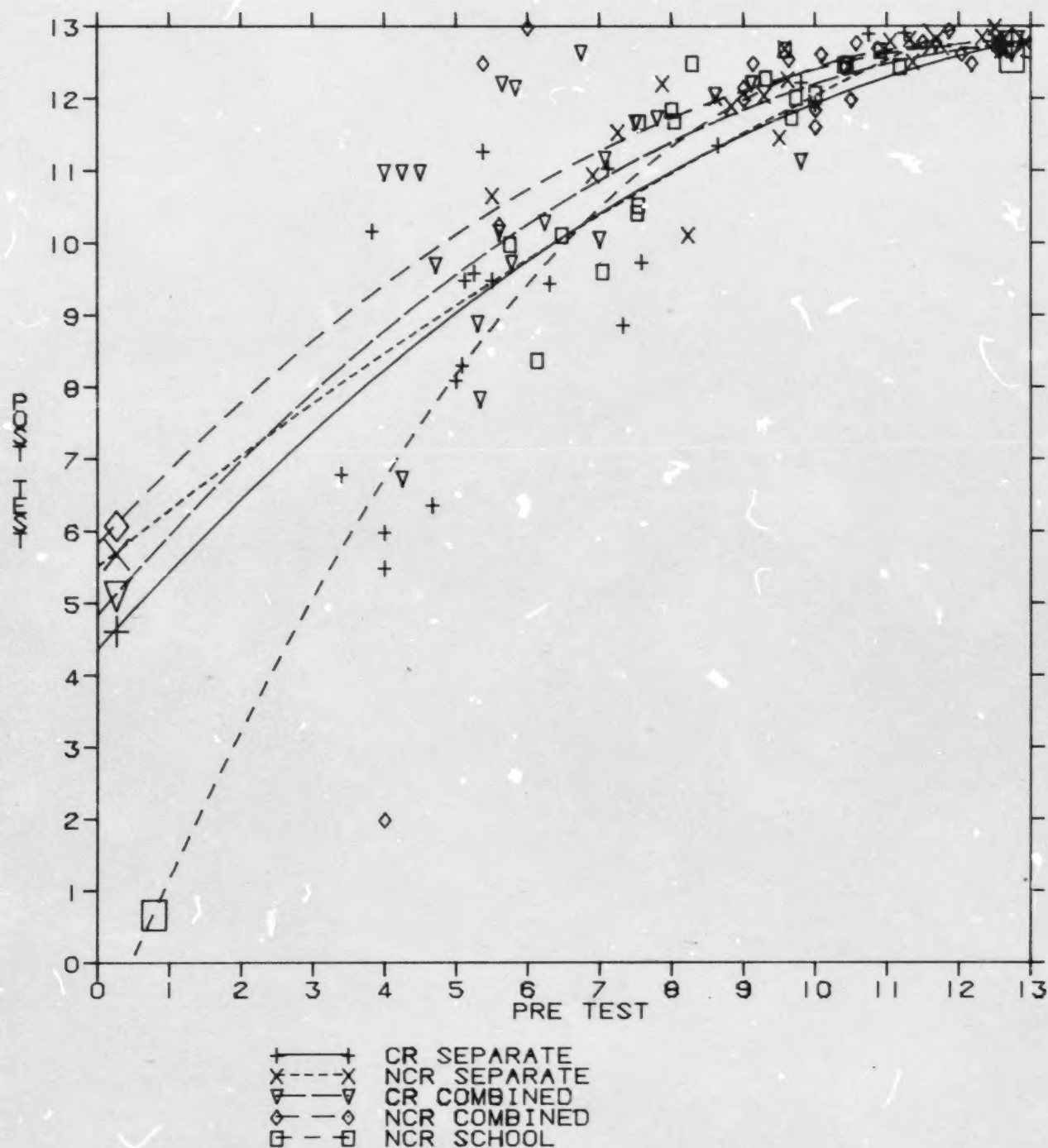
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 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS ATTITUDE



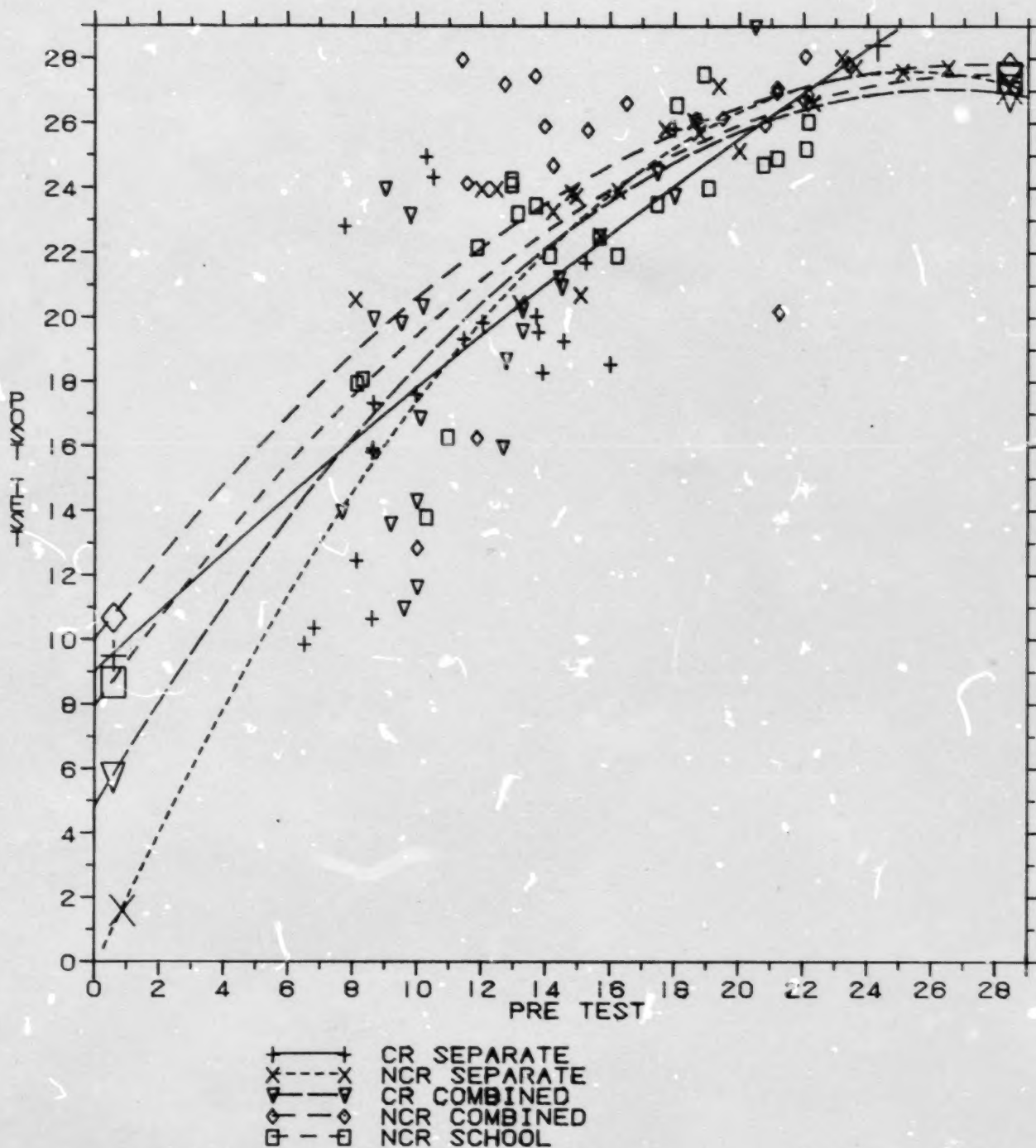
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT WORD KNOWLEDGE



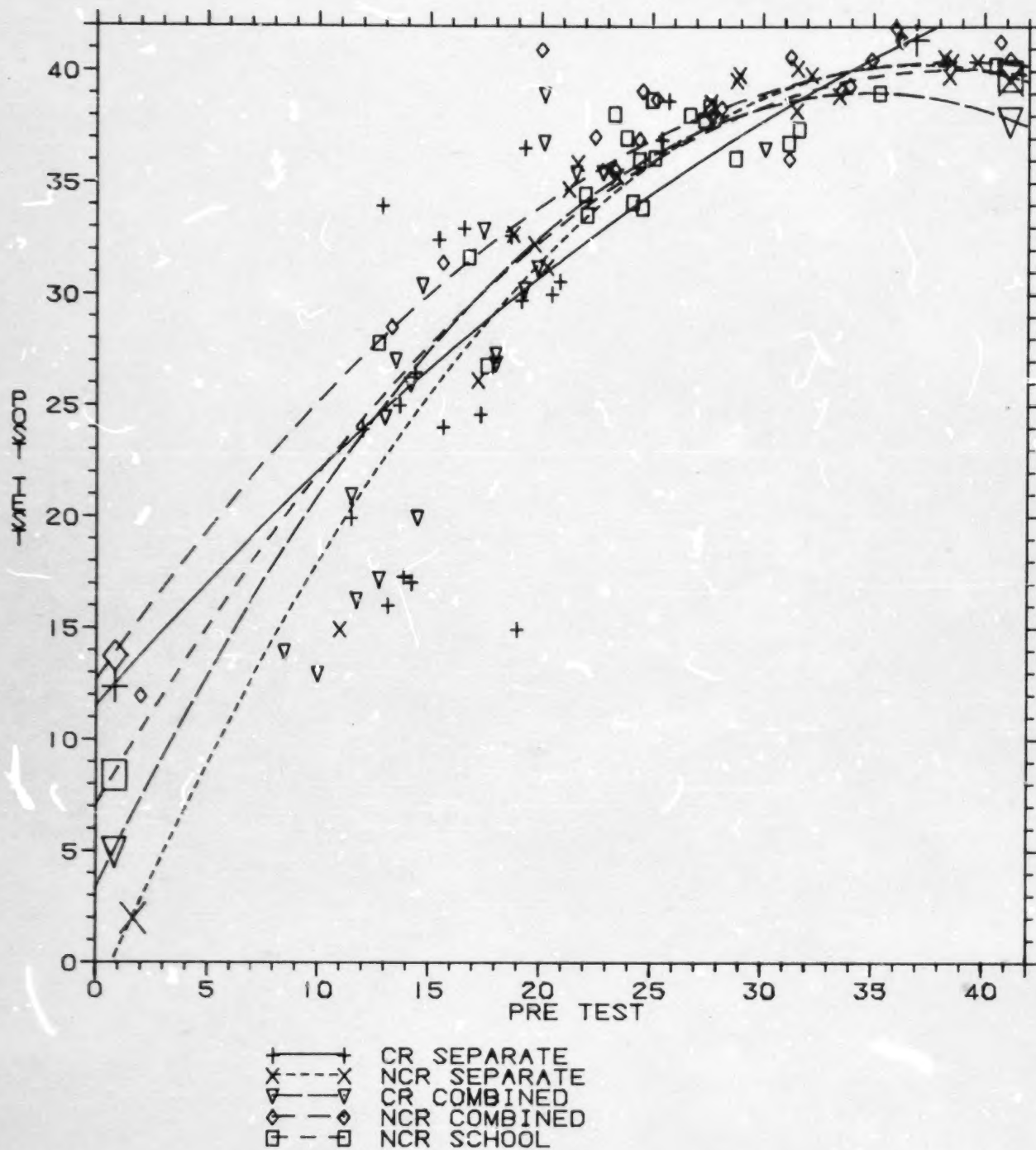
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT SENTENCES



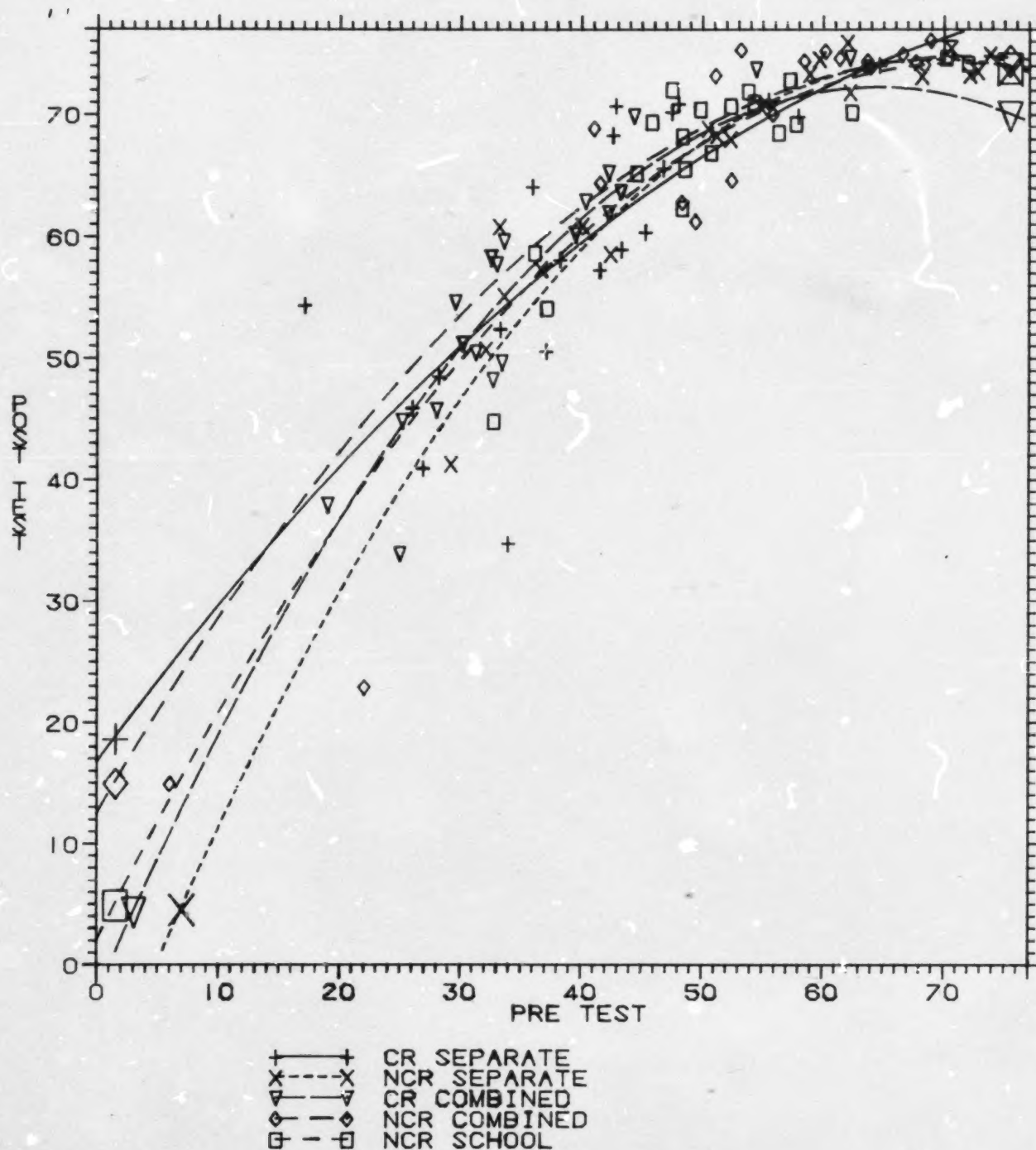
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT STORIES



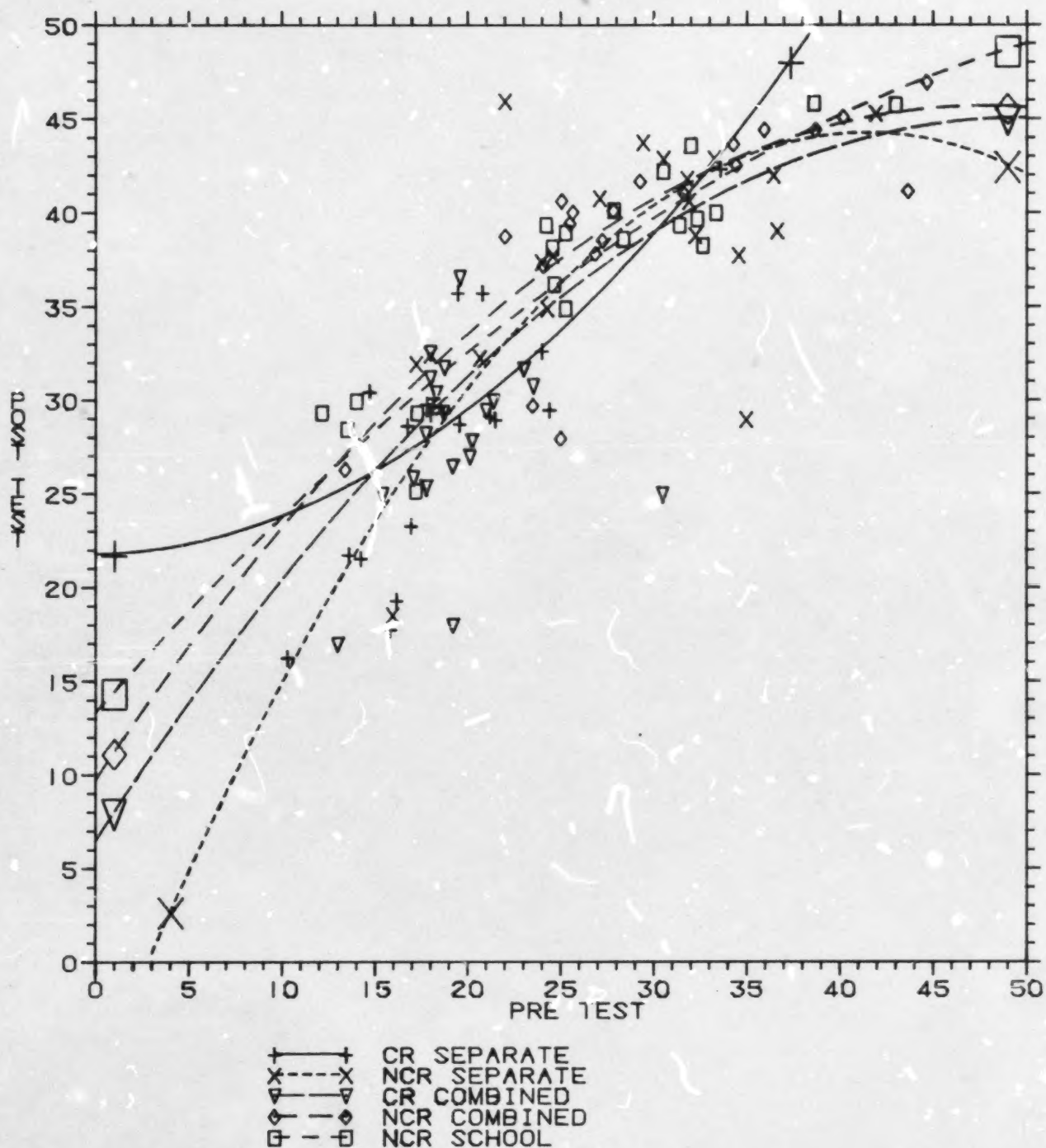
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT READING



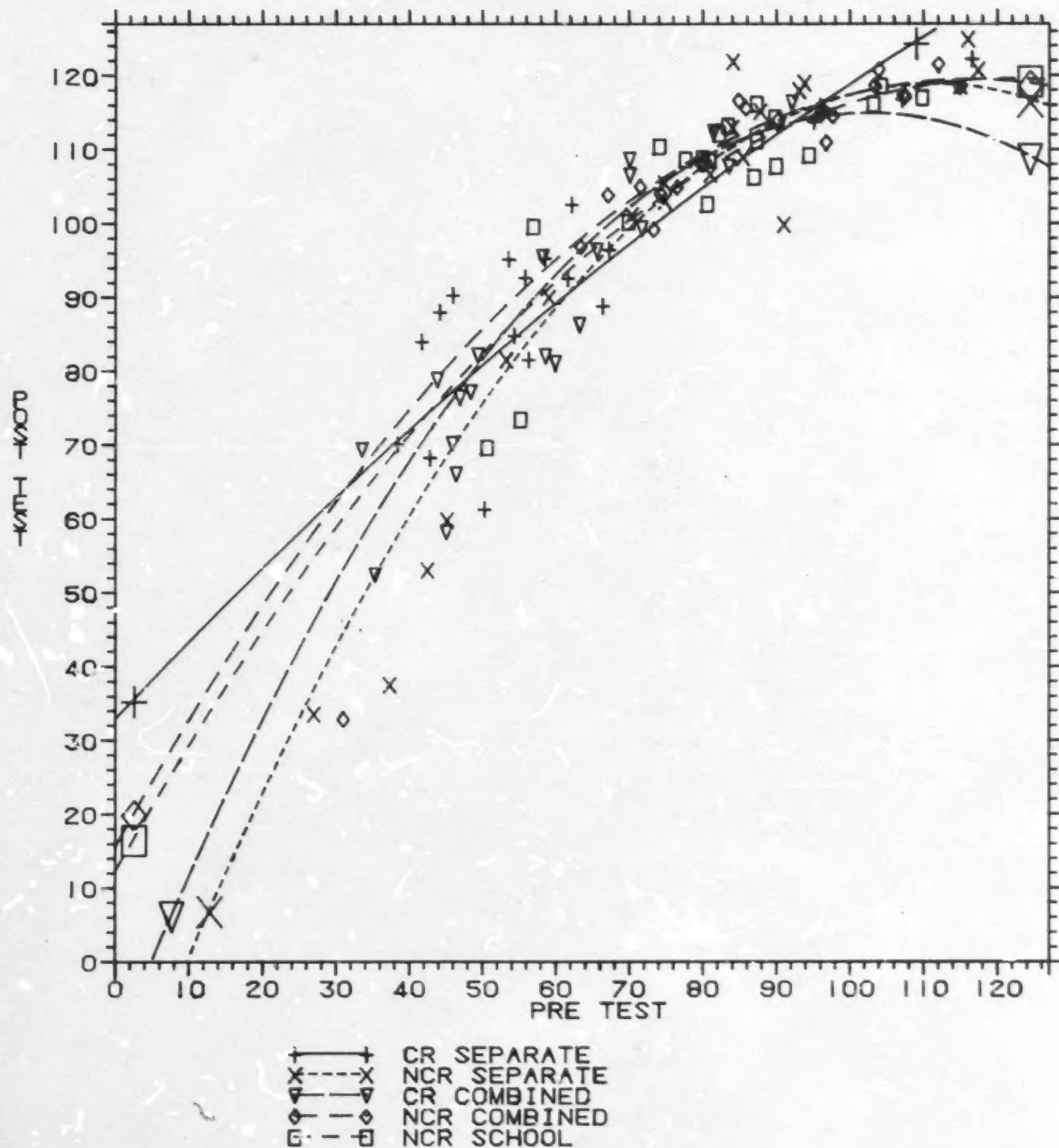
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS MAT TOTAL



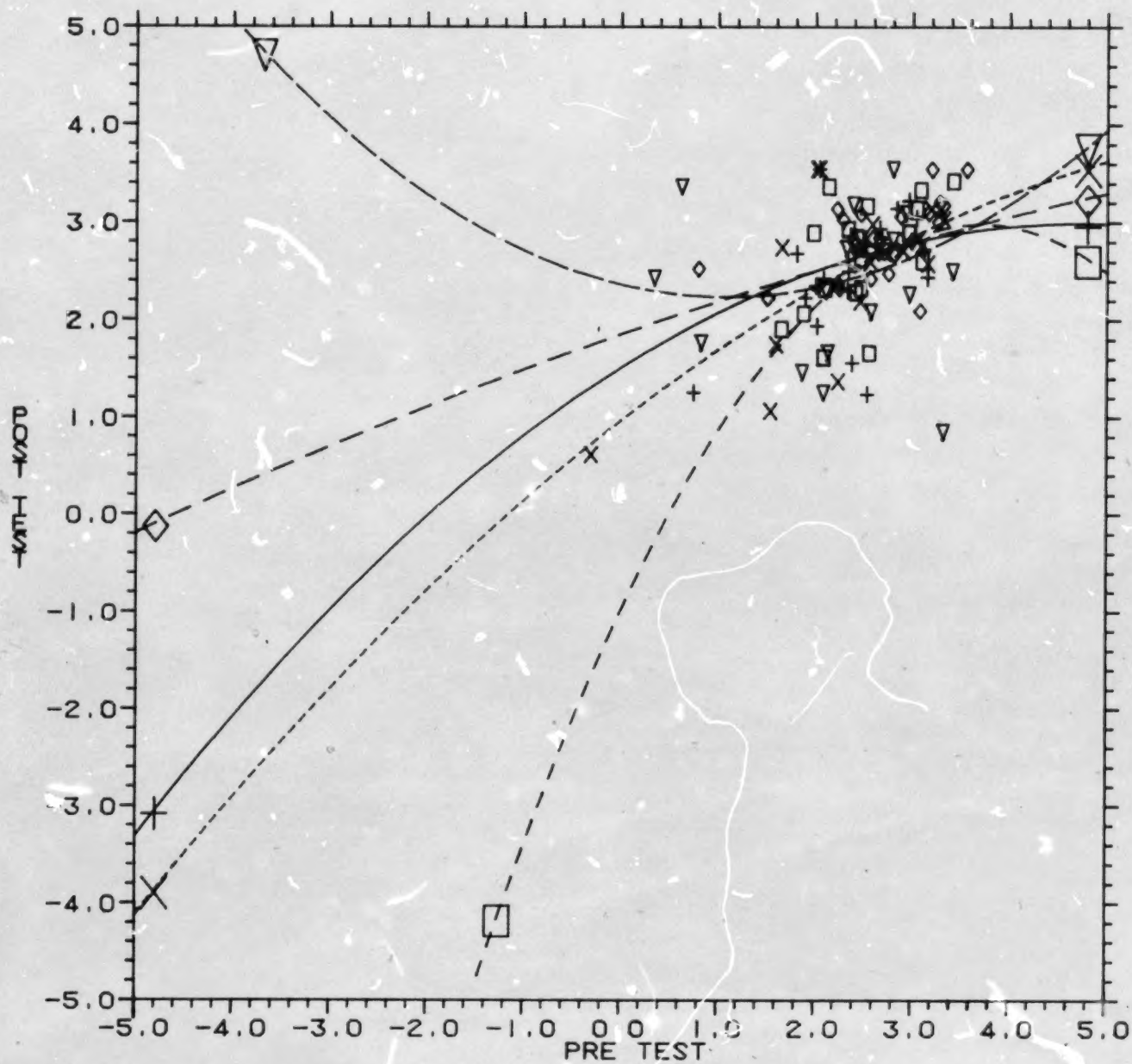
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS COOP



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS TOTAL

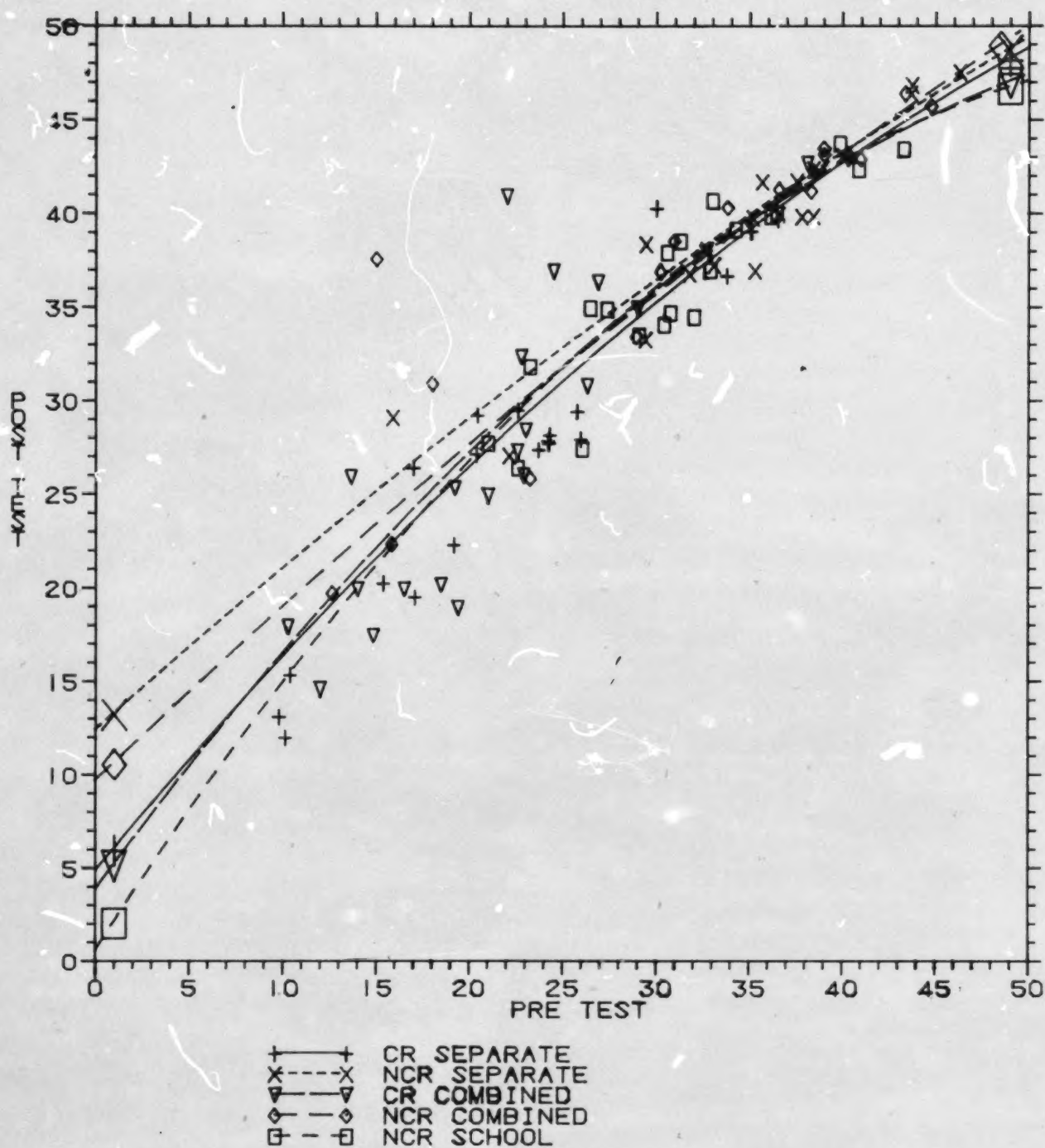


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 2, TEST IS ATTITUDE

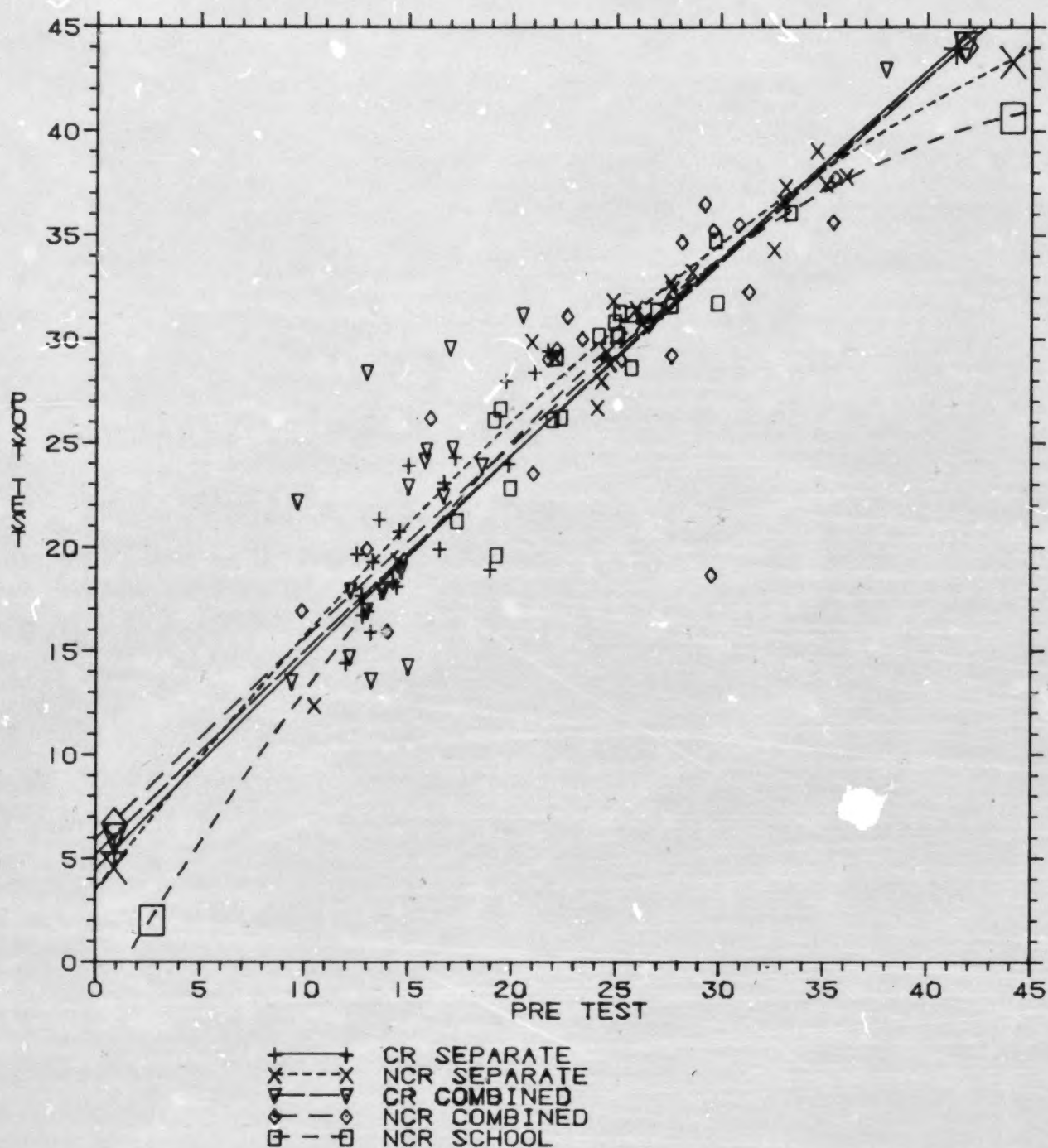


+	+	CR SEPARATE
x	x	NCR SEPARATE
▽	▽	CR COMBINED
◇	◇	NCR COMBINED
□	□	NCR SCHOOL

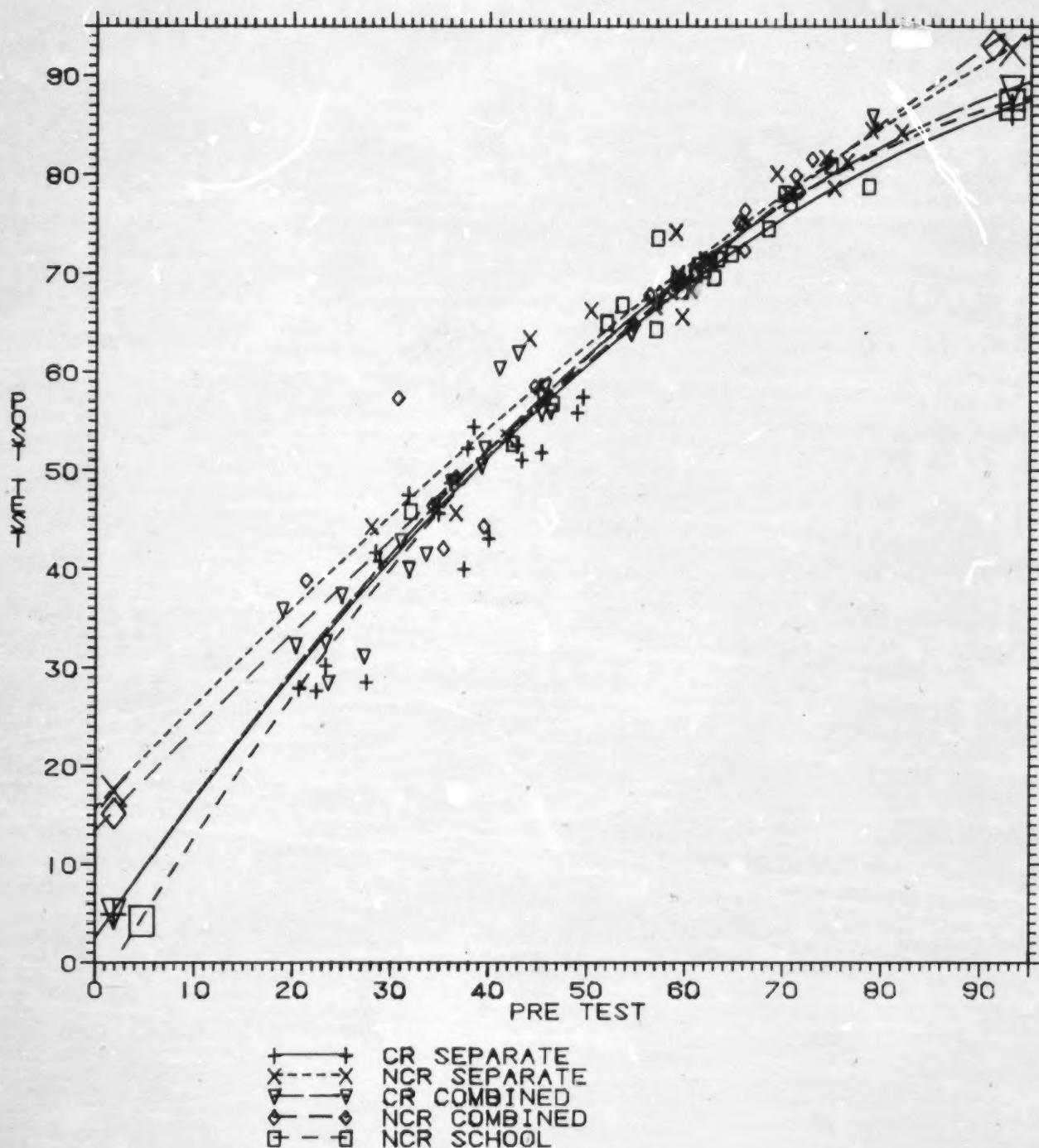
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS MAT WORD KNOWLEDGE



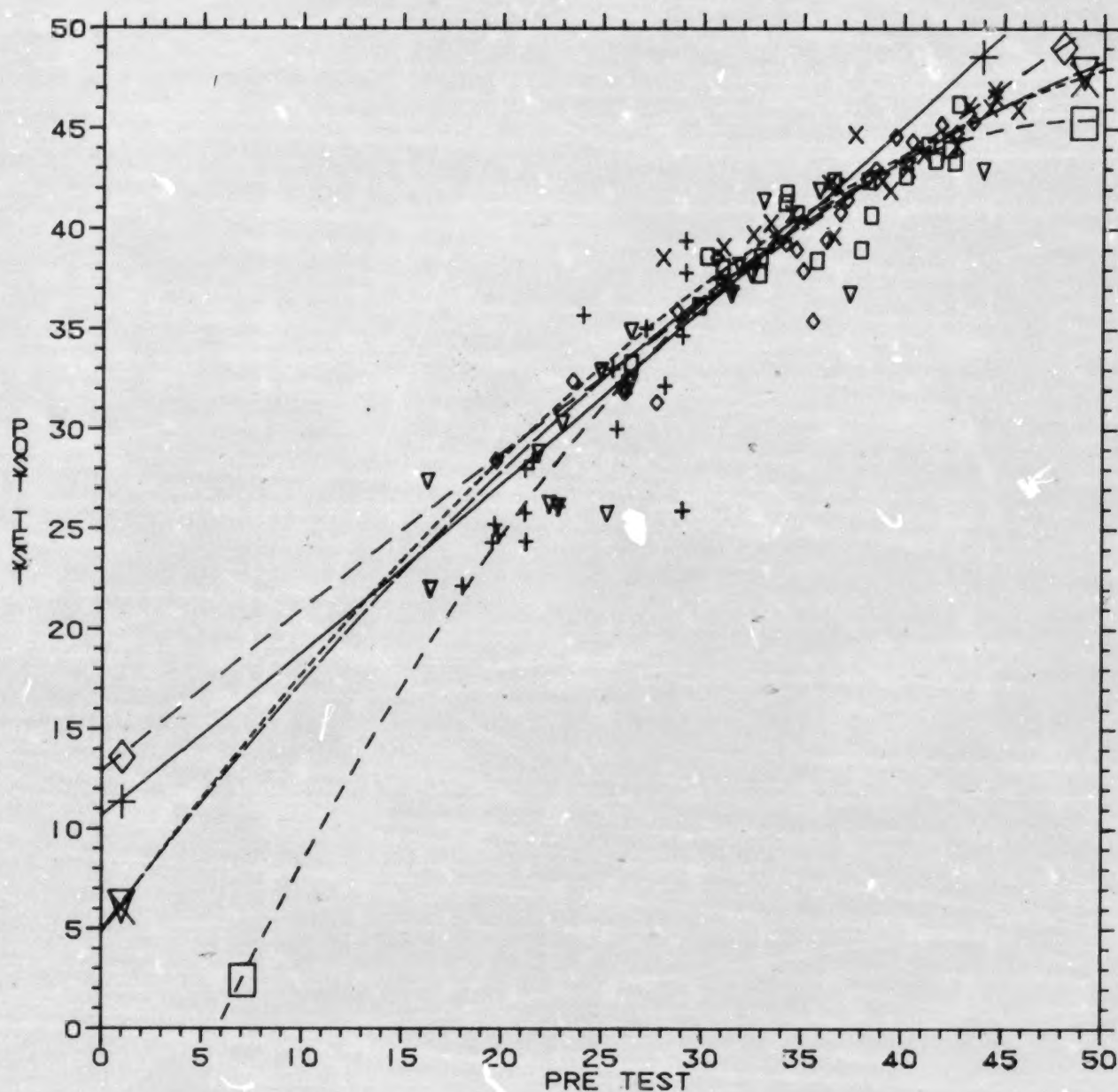
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS MAT READING



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS MAT TOTAL

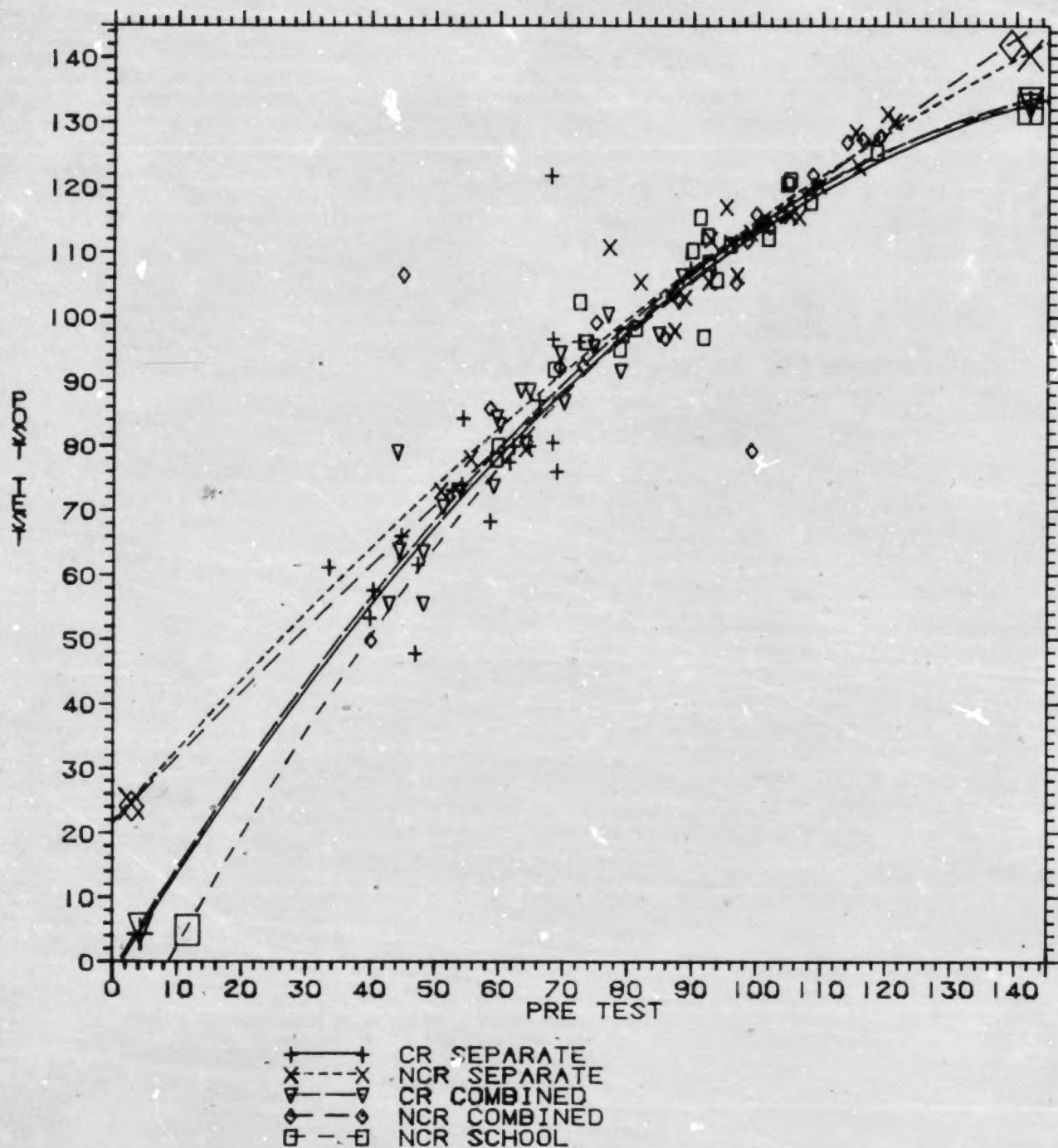


COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS COOP

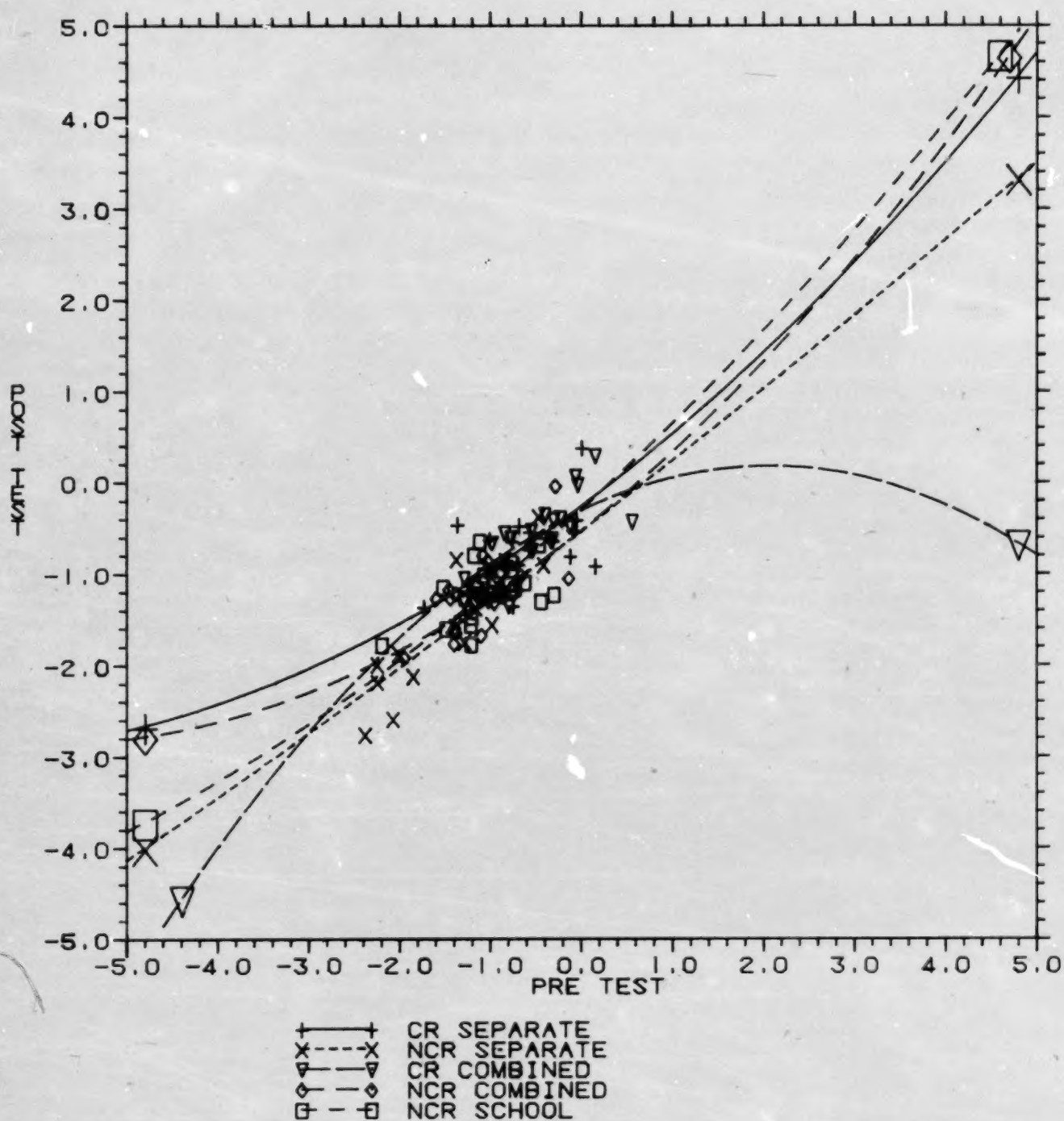


+ — + CR SEPARATE
 x — x NCR SEPARATE
 ▽ — ▽ CR COMBINED
 ◇ — ◇ NCR COMBINED
 □ — □ NCR SCHOOL

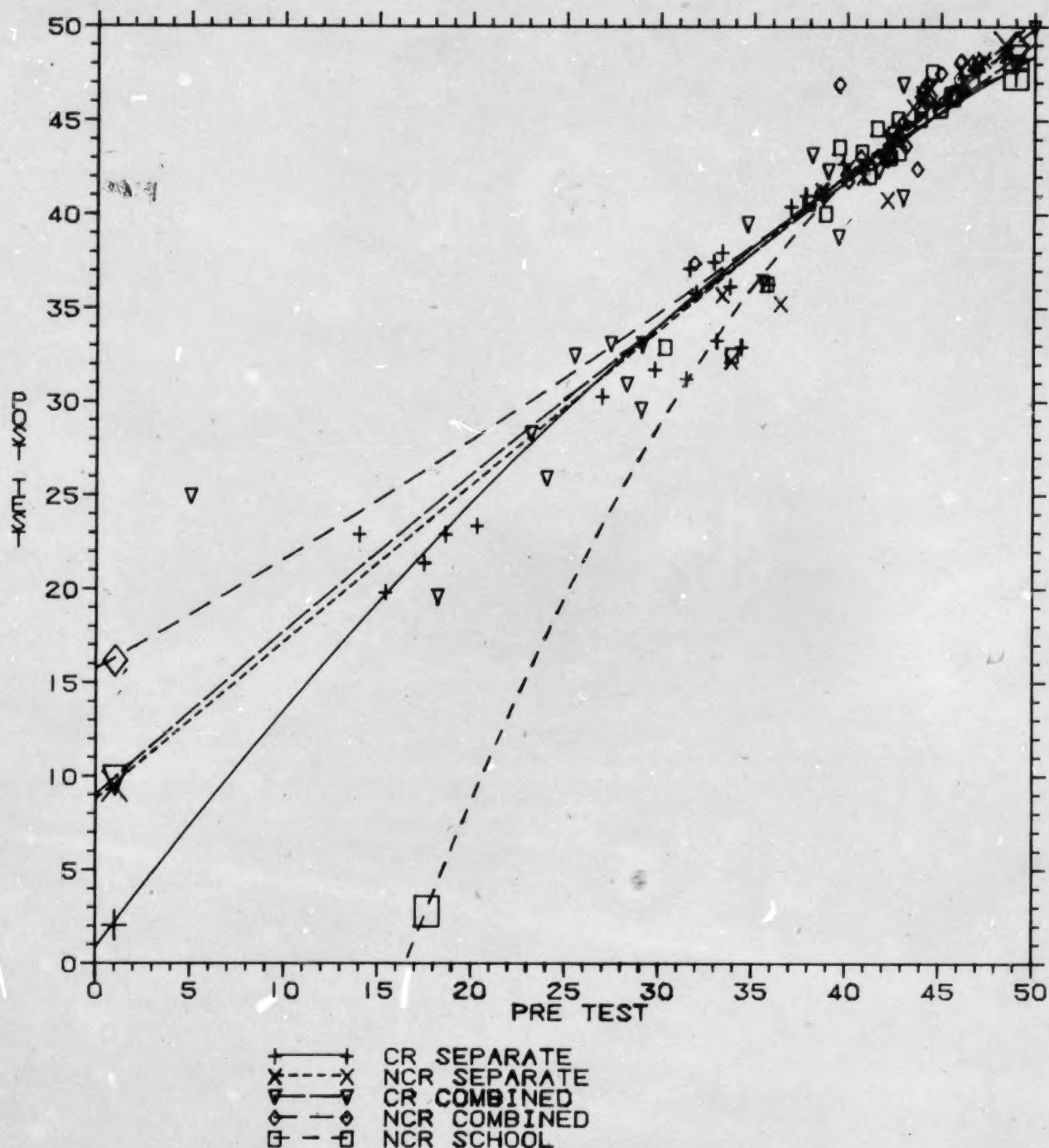
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS TOTAL



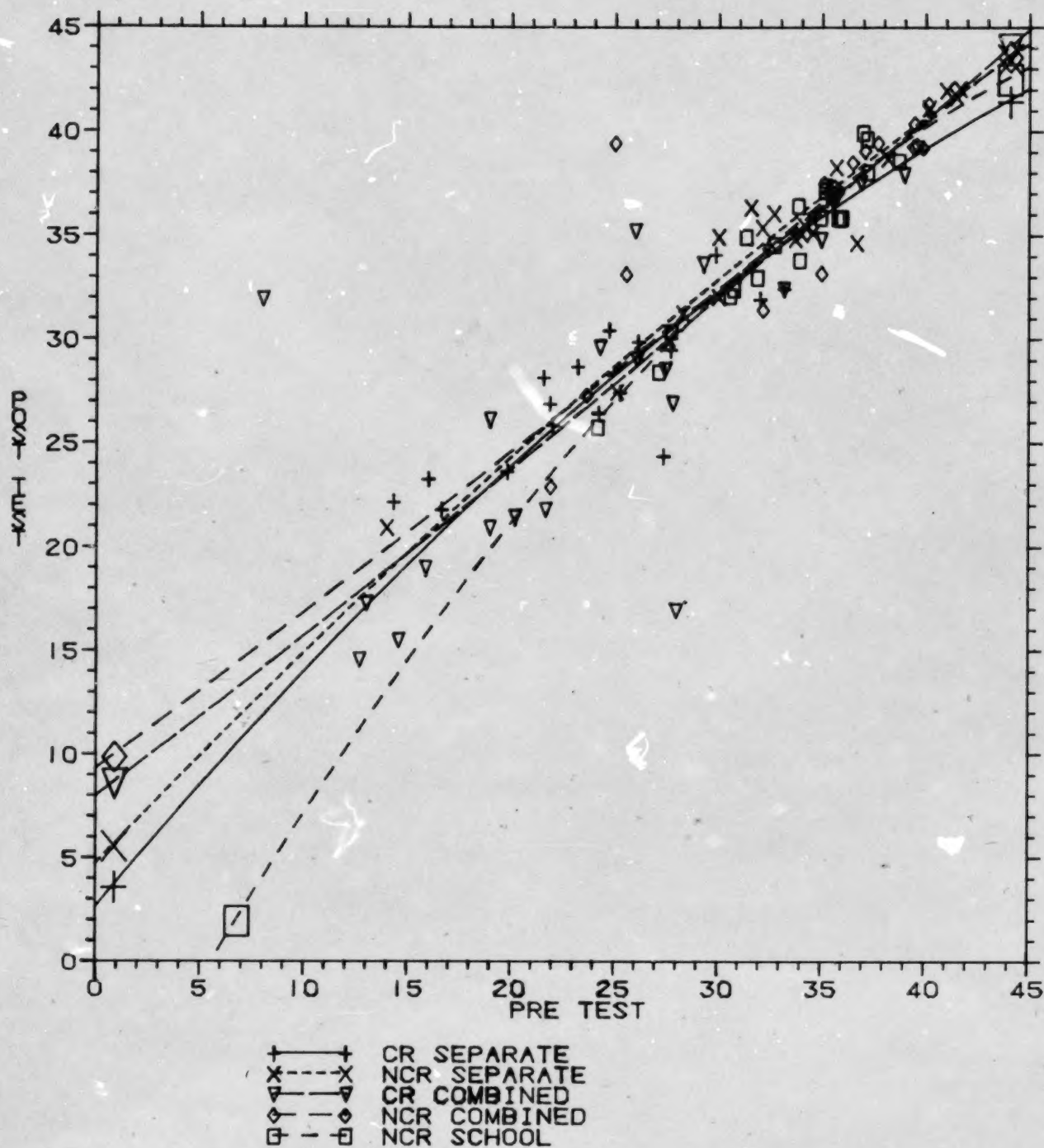
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 4, TEST IS ATTITUDE



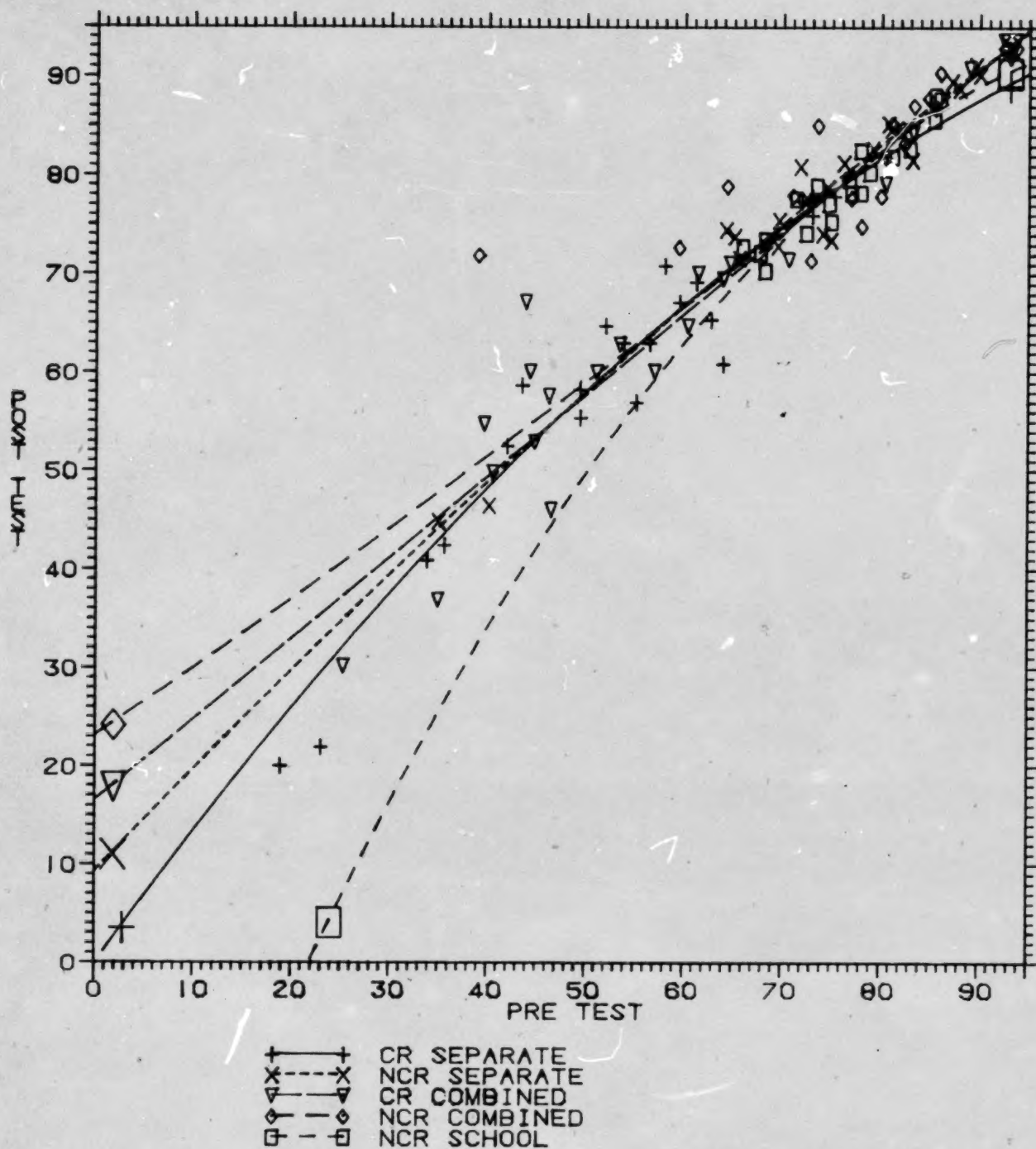
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT WORD KNOWLEDGE



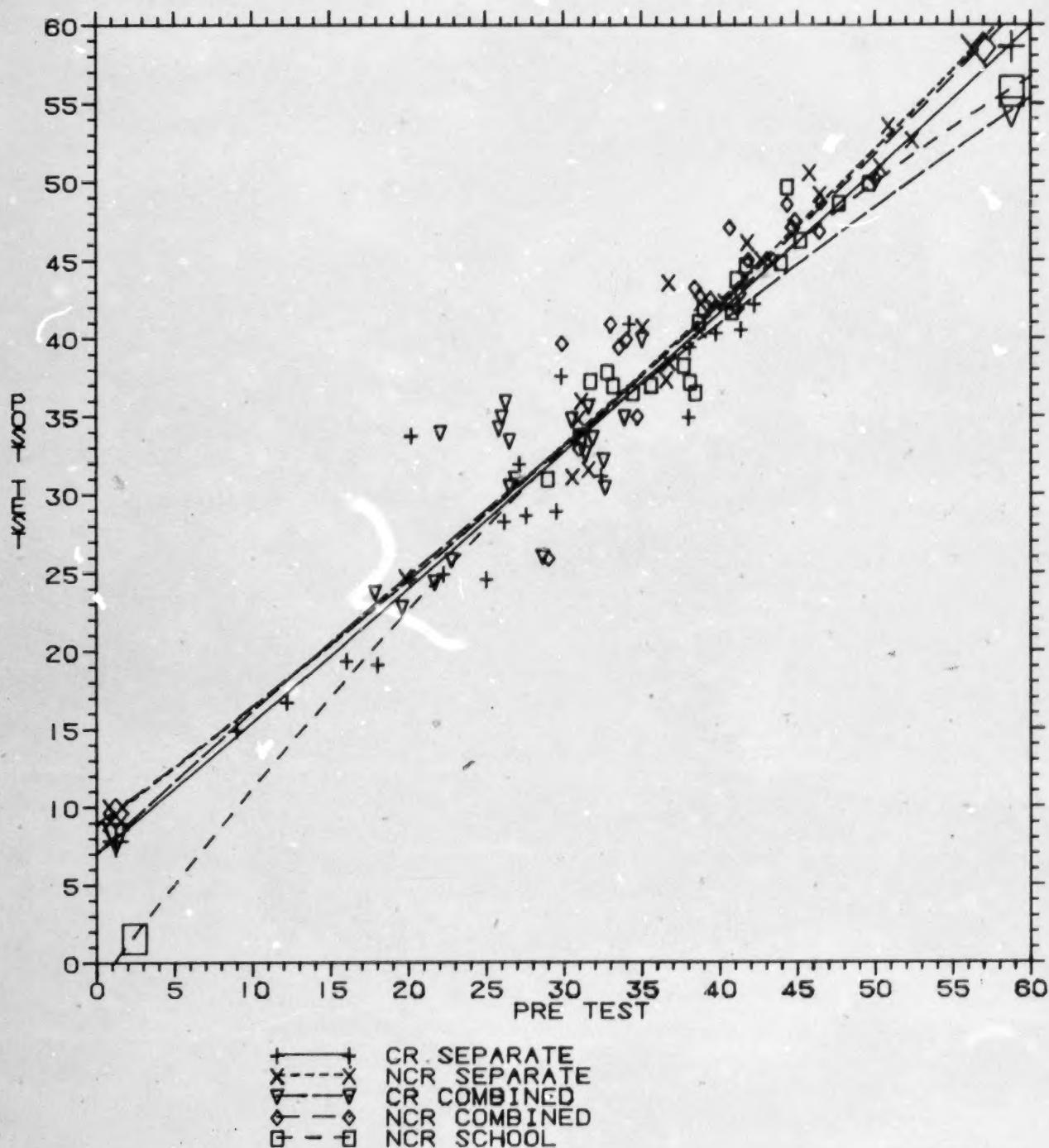
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT READING



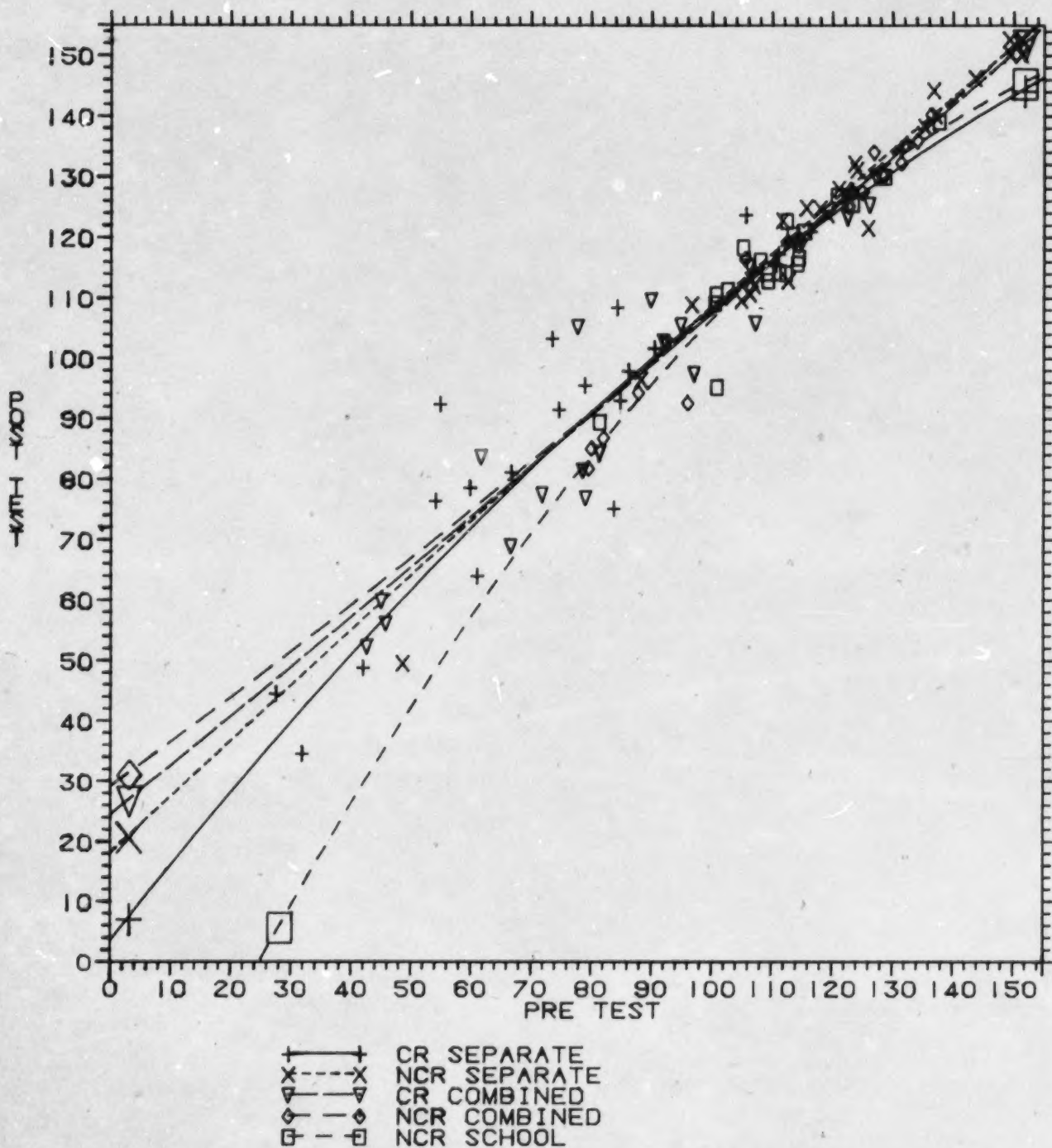
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS MAT TOTAL



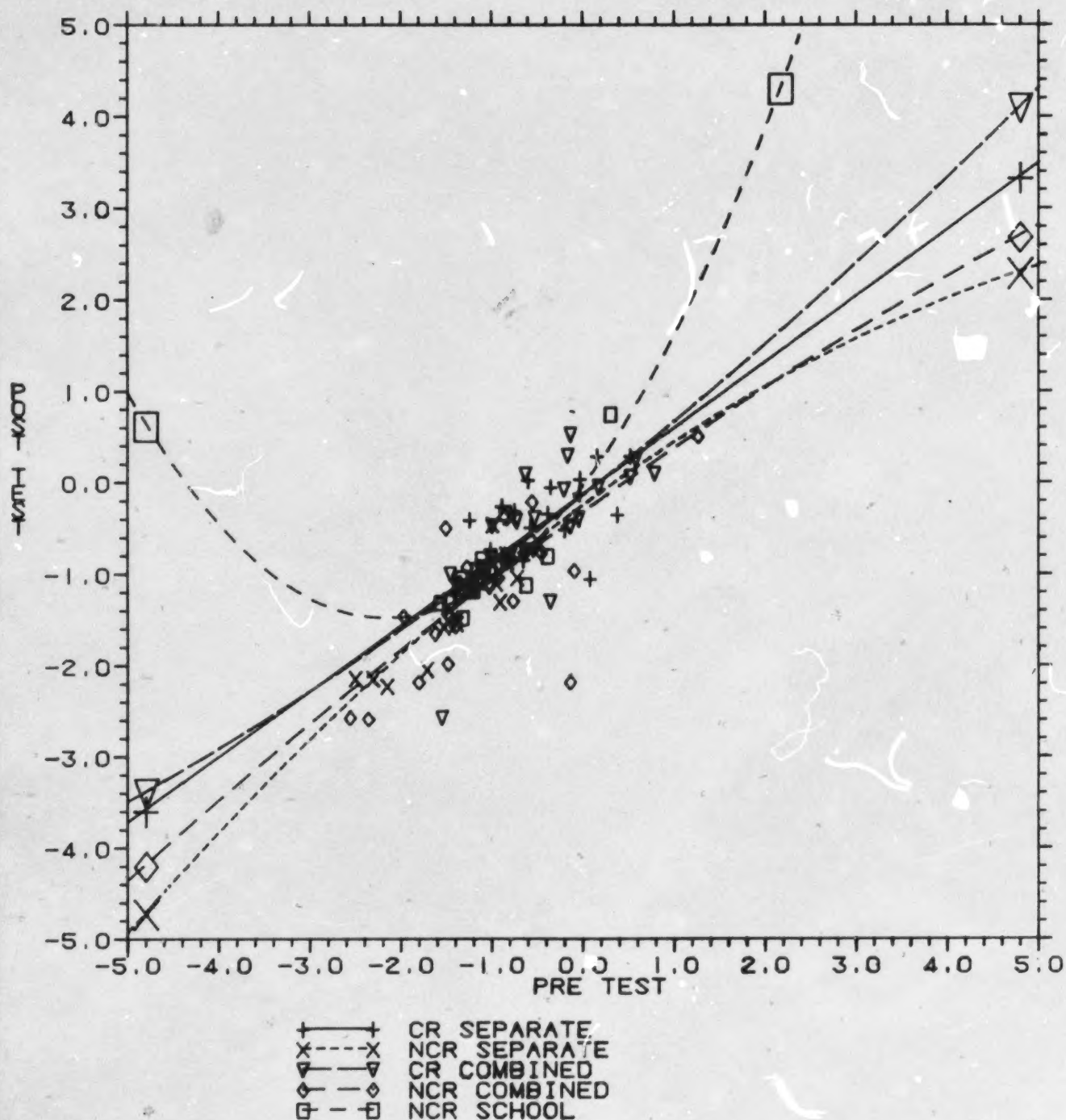
COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS STEP



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS TOTAL



COMPENSATORY READING - PHASE 2
 PLOT OF PRE VS POST CLASS LEVEL MEANS
 FOR THE DIFFERENT CR/NCR GROUPS
 GRADE 6, TEST IS ATTITUDE



Appendix C

APPENDIX C

Supplementary Analyses

Analysis of difference scores. The results described in the "Outcome differences among various compensatory and non-compensatory student groups" section were based on curvilinear analyses of covariance, with posttest score as the dependent variable, and pretest score and pretest score squared as the covariates. In a quasi-experimental design such as that of the present study, where students are not randomly assigned to educational treatments, the weaknesses of standard covariance analysis are well known. In particular, such an analysis is limited in its ability to control adequately for pre-existing differences by the impossibility of specifying and collecting data for all the variables which may effect educational outcomes. Therefore, the analysis strategy of this study was to employ a variety of analytical techniques. The analysis of variance of difference scores (posttest minus pretest) is one of these techniques. It also has limitations in the situation where subjects are not randomly assigned to treatments, where the regression effect is of particular concern. For the reasons given on page 133 of this report, the authors feel that the standard covariance analyses are on the whole, clearly more appropriate for the data of this study than are the unconditional analyses presented in this Appendix. Therefore, the conditional analyses are presented in the body of the report and the unconditional analyses are presented here.

Table A shows the results of difference score analyses of the same CR/NCR comparisons presented in the previous section on standard covariance analysis.

Inspection of Table A shows that, for many reading achievement measures, especially at the second grade level, compensatory reading students show a statistically significant greater gain than do the non-compensatory comparison groups. In addition, compensatory students in classes combined with non-compensatory students show greater gains for most achievement measures than do compensatory students in classes by themselves. These findings are in many instances contradictory to the previously described

curvilinear analyses of covariance, where several significant differences in reading achievement "gain" favored the NCR groups. The two analytical approaches did, however, produce one statistically significant result in common:

CR combined > CR separate at grade 2 for MAT Sentences

In assessing the meaning of the somewhat contradictory results produced by the curvilinear covariance analyses and the analyses of variance of difference scores, the reader should keep in mind that the former is a conditional analysis while the latter is an unconditional one. That is, the covariance analysis takes into account the initial achievement level of each class, while the analysis of difference scores ignores initial starting levels and simply compares the posttest/pretest differences between comparison groups. The authors feel that the curvilinear analyses of covariance presented in the "Results" section of this report are the more appropriate of the two analytical approaches for the data of this study.

Difference score analysis of reading achievement and attitude gain among clusters. Curvilinear analyses of covariance were performed to determine whether there was differential effectiveness among clusters. These analyses are described in the "Analysis of individual cluster effectiveness" section of this report. As was the case for the CR/NCR group comparisons, an alternative set of analyses was performed defining "gain" simply as "posttest minus pretest." Analyses of variance of these difference scores were then performed on the same set of comparisons among clusters described in the "Analysis of individual cluster effectiveness" section of this report.

Of all achievement and attitude dependent variables tested, at all grade levels, only one (MAT Word Knowledge at the sixth grade level) showed a significant difference among clusters ($F [1,163 \text{ D.F.}] = 2.1$; $p = .03$; proportion of variance explained by the comparison = .11). Tests of significance performed on the individual components of the overall among clusters comparison revealed that the primary contributing factor to this difference was the superiority in Word Knowledge achievement gain of cluster 3A. This cluster is characterized by a concentration on the basic techniques of reading instruction.

Table A

Differences in Reading Achievement and Attitude Posttest/Pretest Difference Scores Among Various Compensatory and Non-Compensatory Student Groups

Grade 2

Comparison	Criterion	F(1,1279)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Difference Score Means	
						1	2
CR sep vs. CR comb, both in CR schools	MAT Word Knowledge	NS			35	8.1	7.9
	MAT Sentences	11.6 ³	CR comb > CR sep	.01	13	3.4	3.9
	MAT Stories	3.9 ¹	CR comb > CR sep	<.01	29	7.5	8.1
	MAT Reading	6.9 ²	CR comb > CR sep	.01	42	10.8	12.0
	MAT Total	NS			77	18.9	19.8
	Cooperative Reading	NS			50	10.4	11.0
	MAT Total + Coop. Read.	NS			127	29.0	30.8
	Attitude Toward Reading	F(1,1267)			15	0.5	0.3
CR comb vs. NCR comb, both in CR schools	MAT Word Knowledge	212.2 ³	CR > NCR	.14	35	7.9	4.5
	MAT Sentences	151.0 ³	CR > NCR	.11	13	3.9	2.5
	MAT Stories	16.2 ³	CR > NCR	.01	29	8.1	7.1
	MAT Reading	51.4 ³	CR > NCR	.04	42	12.0	9.5
	MAT Total	131.4 ³	CR > NCR	.09	77	19.8	14.1
	Cooperative Reading	NS			50	11.0	10.7
	MAT Total + Coop. Read.	65.7 ³	CR > NCR	.05	127	30.8	24.7
	Attitude Toward Reading	F(1,1267)			15	0.3	0.2

Table A (cont.)

Grade 2

Comparison	Criterion	F(1,1279)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Difference Score Means	
						1	2
CR sep vs. NCR sep, both in CR schools	MAT Word Knowledge	70.5 ³	CR > NCR	.05	35	8.1	4.6
	MAT Sentences	28.1 ³	CR > NCR	.02	13	3.4	2.3
	MAT Stories	11.2 ³	CR > NCR	.01	29	7.5	5.9
	MAT Reading	18.6 ³	CR > NCR	.01	42	10.8	8.2
	MAT Total	44.7 ³	CR > NCR	.03	77	18.9	12.8
	Cooperative Reading	4.6 ¹	CR > NCR	<.01	50	10.4	9.1
	MAT Total + Coop. Read.	27.8 ³	CR > NCR	.02	127	29.0	21.8
	Attitude Toward Reading	<u>F(1,1267)</u> 4.7 ¹	CR > NCR	<.01	15	0.5	0.1
NCR sep vs. NCR comb, both in CR schools	MAT Word Knowledge	NS			35	4.6	4.5
	MAT Sentences	NS			13	2.3	2.5
	MAT Stories	7.5 ²	NCR comb > NCR sep	.01	29	5.9	7.1
	MAT Reading	5.8 ¹	NCR comb > NCR sep	<.01	42	8.2	9.5
	MAT Total	NS			77	12.8	14.1
	Cooperative Reading	8.7 ²	NCR comb > NCR sep	.01	50	9.1	10.7
	MAT Total + Coop. Read	5.5 ¹	NCR comb > NCR sep	<.01	127	21.8	24.7
	Attitude Toward Reading	<u>F(1,1267)</u> NS			15	0.1	0.2

Table A (cont.)

Grade 2

Comparison	Criterion	F(1,1279)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Difference Score Means	
						1 ⁴	2
All CR vs. NCR in NCR schools	MAT Word Knowledge	43.1 ³	CR > NCR	.03	35	8.0	5.2
	MAT Sentences	26.4 ³	CR > NCR	.02	13	3.6	2.5
	MAT Stories	NS			29	7.8	7.0
	MAT Reading	8.7 ²	CR > NCR	.01	42	11.4	9.6
	MAT Total	24.9 ³	CR > NCR	.02	77	19.3	14.8
	Cooperative Reading	NS			50	10.7	10.5
	MAT Total + Coop. Read.	11.7 ³	CR > NCR	.01	127	30.0	25.3
	Attitude Toward Reading	<u>F(1,1267)</u> 5.3 ¹	CR > NCR	<.01	15	0.5	-0.1
	MAT Word Knowledge	6.3 ²	CR > NCR	<.01	35	6.3	5.2
	MAT Sentences	4.7 ¹	CR > NCR	<.01	13	3.0	2.5
CR schools vs. NCR schools	MAT Stories	NS			29	7.2	7.0
	MAT Reading	NS			42	10.1	9.6
	MAT Total	NS			77	16.4	14.8
	Cooperative Reading	NS			50	10.3	10.5
	MAT Total + Coop. Read.	NS			127	26.6	25.3
	Attitude Toward Reading	<u>F(1,1267)</u> NS			15	0.3	-0.1
	MAT Word Knowledge	6.3 ²	CR > NCR	<.01	35	6.3	5.2
	MAT Sentences	4.7 ¹	CR > NCR	<.01	13	3.0	2.5
	MAT Stories	NS			29	7.2	7.0
	MAT Reading	NS			42	10.1	9.6

Table A (cont.)

Grade 4

Comparison	Criterion	Direction of Difference	F(1,1232)	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Difference Score Means	
						1	2
CR sep vs. CR comb, both in CR schools	MAT Word Knowledge	NS	$F(1,1232)$		50	6.2	6.7
	MAT Reading	NS			45	4.5	4.6
	MAT Total	NS			95	10.7	11.3
	Cooperative Reading	NS			50	6.6	7.0
	MAT Total + Coop. Read.	NS			145	17.2	18.3
	Attitude Toward Reading	NS	$F(1,1224)$		25	-0.4	-0.6
CR comb vs. NCR comb, both in CR schools	MAT Word Knowledge	CR > NCR	$F(1,1232)$	.04	50	6.7	4.9
	MAT Reading	NS			45	4.6	4.4
	MAT Total	CR > NCR		.02	95	11.3	9.3
	Cooperative Reading	CR > NCR		.08	50	7.0	4.9
	MAT Total + Coop. Read.	CR > NCR		.05	145	18.3	14.2
	Attitude Toward Reading	NS	$F(1,1224)$		25	-0.6	-0.7
CR sep vs. NCR sep, both in CR schools	MAT Word Knowledge	CR > NCR	$F(1,1232)$	.01	50	6.2	4.9
	MAT Reading	NS			45	4.5	4.8
	MAT Total	NS			95	10.7	9.7
	Cooperative Reading	CR > NCR		.02	50	6.6	4.8
	MAT Total + Coop. Read.	CR > NCR		.01	145	17.2	14.5
	Attitude Toward Reading	CR > NCR	$F(1,1224)$	<.01	25	-0.4	-0.8

Table A (cont.)

Grade 4

Comparison	Criterion	F(1,1232)	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Difference Score Means	
						1	2
NCR sep vs. NCR comb, both in CR schools	MAT Word Knowledge	NS			50	4.9	4.9
	MAT Reading	NS			45	4.8	4.4
	MAT Total	NS			95	9.7	9.3
	Cooperative Reading	NS			50	4.8	4.9
	MAT Total + Comp. Read.	NS			145	14.5	14.2
All CR vs. NCR in NCR schools	Attitude Toward Reading	NS			25	-0.8	-0.7
	MAT Word Knowledge	6.1 ²	CR > NCR	<.01	50	6.4	5.3
	MAT Reading	NS			45	4.6	4.5
	MAT Total	NS			95	11.0	9.8
	Cooperative Reading	19.1 ³	CR > NCR	.02	50	6.8	5.1
CR schools vs. NCR schools	MAT Total + Comp. Read.	8.8 ²	CR > NCR	.01	145	17.7	15.0
	Attitude Toward Reading	NS			25	-0.5	-0.5
	MAT Word Knowledge	NS			50	5.7	5.3
	MAT Reading	NS			45	4.6	4.5
	MAT Total	NS			95	10.3	9.8
Cooperative Reading	Cooperative Reading	NS			50	5.8	5.1
	MAT Total + Comp. Read.	NS			145	16.1	15.0
	Attitude Toward Reading	NS			25	-0.6	-0.5
	MAT Word Knowledge	NS			50	5.7	5.3
	MAT Reading	NS			45	4.6	4.5
CR schools vs. NCR schools	MAT Total	NS			95	10.3	9.8
	Cooperative Reading	NS			50	5.8	5.1
	MAT Total + Comp. Read.	NS			145	16.1	15.0
	Attitude Toward Reading	NS			25	-0.6	-0.5
	MAT Word Knowledge	NS			50	5.7	5.3

Table A (cont.)

Grade 6

Comparison	Criterion	Direction of Difference	Proportion of Variance Explained by Comparison	N of Items in Criterion	Raw Difference Score Means	
					1	2
CR sep vs. CR comb, both in CR schools	MAT Word Knowledge	NS		50	3.4	3.4
	MAT Reading	NS		45	3.2	3.0
	MAT Total	NS		95	6.6	6.4
	STEP II Reading	NS		60	3.2	3.4
	MAT Total + STEP Read.	NS		155	9.9	9.9
		<u>F(1,1012)</u>				
Attitude Toward Reading		NS		25	0.0	-0.1
CR comb vs. NCR comb, both in CR schools	MAT Word Knowledge	CR > NCR	.03	50	3.4	1.9
	MAT Reading	CR > NCR	.02	45	3.0	1.9
	MAT Total	CR > NCR	.03	95	6.4	3.8
	STEP II Reading	CR > NCR	.01	60	3.4	2.4
	MAT Total + STEP Read.	CR > NCR	.03	155	9.9	6.2
		<u>F(1,1012)</u>				
Attitude Toward Reading		NS		25	-0.1	-0.0
CR sep vs. NCR sep, both in CR schools	MAT Word Knowledge	CR > NCR	.01	50	3.4	2.1
	MAT Reading	CR > NCR	<.01	45	3.2	2.3
	MAT Total	CR > NCR	.01	95	6.6	4.4
	STEP II Reading	NS		60	3.2	2.7
	MAT Total + STEP Read.	CR > NCR	.01	155	9.9	7.2
		<u>F(1,1012)</u>				
Attitude Toward Reading		NS		25	0.0	-0.0

Table A (cont.)

Grade 6

Comparison	Criterion	F(1,1014)	Direction of Difference	Variance Explained by Comparison	Items in Criterion	1 ⁴	2	Score means
NCR sep vs. NCR comb, both in CR schools	MAT Word Knowledge	NS			50	2.1	1.9	
	MAT Reading	NS			45	2.3	1.9	
	MAT Total	NS			95	4.4	3.8	
	STEP II Reading	NS			60	2.7	2.4	
	MAT Total + STEP Read.	NS			155	7.2	6.2	
Attitude Toward Reading		NS			25	-0.0	-0.0	
All CR vs. NCR in CR schools	MAT Word Knowledge	23.4 ³	CR > NCR	.02	50	3.4	1.2	
	MAT Reading	8.7 ²	CR > NCR	.01	45	3.1	1.7	
	MAT Total	20.5 ³	CR > NCR	.02	95	6.5	2.9	
	STEP II Reading	6.4 ²	CR > NCR	.01	60	3.3	2.1	
	MAT Total + STEP Read.	18.9 ³	CR > NCR	.02	155	9.9	5.0	
Attitude Toward Reading		NS			25	0.0	0.1	
CR schools vs. NCR schools	MAT Word Knowledge	11.3 ³	CR > NCR	.01	50	2.7	1.2	
	MAT Reading	3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
	MAT Total	9.5 ²	CR > NCR	<.01	95	5.3	2.9	
	STEP II Reading	NS			60	2.9	2.1	
	MAT Total + STEP Read.	9.0 ²	CR > NCR	.01	155	8.3	5.0	
Attitude Toward Reading		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						
		F(1,1014)						
		11.3 ³	CR > NCR	.01	50	2.7	1.2	
		3.9 ¹	CR > NCR	<.01	45	2.6	1.7	
		9.5 ²	CR > NCR	<.01	95	5.3	2.9	
		NS			60	2.9	2.1	
		9.0 ²	CR > NCR	.01	155	8.3	5.0	
		NS			25	-0.0	0.1	
		F(1,1012)						
		NS						

Treatment-effect correlations. The analyses of difference scores described in the preceding section were unconditional analyses; that is, no adjustment of posttest scores for pretest differences was made. The results were not conditional upon the initial status of the groups being compared. Treatment-effect correlational analysis is similar to the analysis of difference scores in that it also is an unconditional analysis. Thus, it would be expected that the two analytical approaches would yield similar results. A subset of the comparisons analyzed via analysis of variance of difference scores was selected to be analyzed via treatment-effect correlations. Table B shows these results.

In situations where the group with lower scores on the pretest receives the treatment coded "1" and the initially higher scoring group receives the treatment coded "0" (see the first footnote of Table A for the coding procedure followed), a negative point-biserial correlation between treatment and pretest will be obtained. If the treatment is effective in reducing the between group variance relative to the within group variance, then the correlation between treatment and posttest would be expected to be closer to zero than the treatment-pretest correlation. In general, an increase in the treatment-test correlation from pretest to posttest is interpreted as evidence for the superiority of the program coded "1," whereas a decrease in the treatment-test correlation suggests the superiority of the program coded "0."

Inspection of Table B shows consistently negative pretest correlations for all reading achievement subtests at all grade levels. This shows that the various CR groups (coded "1") were lower in achievement on pretest than were the NCR groups, a finding corroborated by the analyses of variance reported in the "Preexisting Reading Achievement Differences" section of this report. Pretest correlations for Attitude Toward Reading were slightly negative in grade 2 (indicating CR < NCR), but positive in grades 4 and 6 (indicating CR > NCR). These results confirm those reported in the section on "Preexisting Differences in Attitude Toward Reading." The pattern of posttest

Table B
Treatment-Effect Correlations

Comparison*	Variable	Grade 2		Grade 4		Grade 6	
		Pretest T-E Corr.	Posttest T-E Corr.	Pretest T-E Corr.	Posttest T-E Corr.	Pretest T-E Corr.	Posttest T-E Corr.
All CR vs. all NCR	MAT Word Knowledge	-.43	-.32	-.48	-.47	-.43	-.40
	MAT Sentences	-.41	-.32	-	-	-	-
	MAT Stories	-.41	-.37	-	-	-	-
	MAT Reading	-.43	-.37	-.45	-.44	-.43	-.40
	MAT Total	-.46	-.38	-.48	-.47	-.45	-.42
	Coop. Reading	-.41	-.41	-.47	-.43	-	-
	MAT Total + Coop.	-.46	-.40	-.49	-.47	-	-
	STEP Reading	-	-	-	-	-.45	-.44
	MAT Total + STEP	-	-	-	-	-.46	-.44
	Attitude Toward Reading	-.11	-.03	+ .22	+ .23	+ .22	+ .22
		(N = 17,036)**		(N = 17,440)**		(N = 16,052)**	
*In each case, the first mentioned part of the comparison is coded "1," and the second is coded "							
**N's given are of all students in both groups forming the comparison for whom data are available							
N's for individual correlations are usually somewhat lower because of missing data for particular subtests							
CR (sepa- rate classes) vs. NCR (separate classes)	MAT Word Knowledge	-.40	-.28	-.50	-.51	-.41	-.38
	MAT Sentences	-.39	-.29	-	-	-	-
	MAT Stories	-.40	-.33	-	-	-	-
	MAT Reading	-.42	-.33	-.48	-.50	-.41	-.38
	MAT Total	-.43	-.33	-.51	-.52	-.43	-.39
	Coop. Reading	-.41	-.36	-.49	-.47	-	-
	MAT Total + Coop.	-.43	-.35	-.51	-.52	-	-
	STEP Reading	-	-	-	-	-.44	-.42
	MAT Total + STEP	-	-	-	-	-.44	-.41
	Attitude Toward Reading	-.13	-.01	+ .16	+ .21	+ .13	+ .17
		(N = 4,950)		(N = 5,340)		(N = 5,951)	

Table B (cont.)

Comparison	Variable	Grade 2		Grade 4		Grade 6	
		Pretest T-E Corr.	Posttest T-E Corr.	Pretest T-E Corr.	Posttest T-E Corr.	Pretest T-E Corr.	Posttest T-E Corr.
CR (combined classes) vs. NCR (combined classes)	MAT Word Knowledge	-.47	-.34	-.49	-.46	-.47	-.44
	MAT Sentences	-.45	-.34	-	-	-	-
	MAT Stories	-.45	-.40	-	-	-	-
	MAT Reading	-.47	-.41	-.46	-.44	-.47	-.44
	MAT Total	-.50	-.40	-.50	-.47	-.49	-.46
	Coop. Reading	-.45	-.46	-.48	-.43	-	-
	MAT Total + Coop.	-.50	-.44	-.51	-.47	-	-
	STEP Reading	-	-	-	-	-.50	0.48
	MAT Total + STEP	-	-	-	-	-.51	-.49
	Attitude Toward Reading	-.12	-.06	+.27	+.27	+.30	+.29
		(N = 10,338)		(N = 10,371)		(N = 8,596)	
All CR (separate and com- bined) vs. NCR schools	MAT Word Knowledge	-.27	-.19	-.34	-.31	-.30	-.25
	MAT Sentences	-.28	-.18	-	-	-	-
	MAT Stories	-.30	-.22	-	-	-	-
	MAT Reading	-.31	-.23	-.35	-.32	-.33	-.28
	MAT Total	-.31	-.22	-.36	-.33	-.33	-.28
	Coop. Reading	-.30	-.27	-.32	-.28	-	-
	MAT Total + Coop.	-.32	-.25	-.36	-.32	-	-
	STEP Reading	-	-	-	-	-.36	-.33
	MAT Total + STEP	-	-	-	-	-.35	-.31
	Attitude Toward Reading	-.06	-.02	+.15	+.15	+.16	+.16
		(N = 8,680)		(N = 8,094)		(N = 6,964)	

Table B (cont.)

Comparison	Variable	Grade 2		Grade 4		Grade 6	
		Pretest T-E Corr.	Posttest T-E Corr.	Pretest T-E Corr.	Posttest T-E Corr.	Pretest T-E Corr.	Posttest T-E Corr.
Noteworthy schools vs. all other schools*	MAT Word Knowledge	-.20	-.18	-.22	-.22	-.21	-.21
	MAT Sentences	-.17	-.18	-	-	-	-
	MAT Stories	-.19	-.19	-	-	-	-
	MAT Reading	-.19	-.19	-.21	-.21	-.22	-.20
	MAT Total	-.21	-.20	-.22	-.22	-.22	-.21
	Coop. Reading	-.19	-.20	-.23	-.22	-	-
	MAT Total + Coop.	-.20	-.21	-.23	-.23	-	-
	STEP Reading	-	-	-	-	-.21	-.22
	MAT Total + STEP	-	-	-	-	-.22	-.22
	Attitude Toward Reading	-.09	-.02	+.05	+.07	+.03	+.05
		(N = 15,912)		(N = 16,403)		(N = 15,529)	

*"Noteworthy" schools were coded "1," all other schools were coded "0."

correlations closer to zero than their pretest counterparts (indicating CR > NCR gain) is strongest in grade 2, with differences between pretest and posttest correlations being much smaller in grades 4 and 6. The results in general are consistent with those emerging from the analysis of difference scores, reported in a previous section of this Appendix. In some cases, the correspondence is remarkable. For example, in grade 2, comparing all CR vs. all NCR, all achievement subtests with the single exception of Cooperative Reading showed CR gain > NCR gain, but no difference between groups in terms of Cooperative Reading scores. Differences in attitude gain were either small in favor of CR, or non-significant. Differences in both achievement and attitude gain at all grade levels were of minimal importance for the innovative schools vs. all other schools comparison. It is of interest to note the consistently negative pretest correlations for the innovative vs. non-innovative schools comparison, indicating that innovative schools have lower reading achievement and attitude pretest standing than do non-innovative schools. Apparently innovative programs are, like compensatory programs in general, applied where the need is greatest.

As expected, the general pattern of results emerging from the treatment-effect analyses was very similar to that produced by the analyses of difference scores. It should be noted, however, that the investigators recommend the conditional analyses (analyses of covariance) presented in the body of this report as the more appropriate, and that these conditional analyses show quite a different picture of results at least with respect to the direction of differences found to be significant. However, many of differences between pretest and posttest correlations (see Table B) are quite small and could easily be considered to represent non-significant differences. If this interpretation were made, then the correspondence of results between the treatment/effect correlations analysis and the conditional analysis of Table 27, with respect to non-significant differences, would be substantial. Thus the results reported in the "Outcomes in Innovative Schools Sample" section, showing differences favoring the non-innovative group in grades 4 and 6, were not corroborated by this analysis.